



THE OPEN UNIVERSITY OF SRI LANKA  
 BACHELOR OF TECHNOLOGY – LEVEL 05  
 FINAL EXAMINATION – 2008  
 MPJ5233 – TECHNOLOGY, SOCIETY & ENVIRONMENT  
 DURATION: FOUR HOURS (ESSAY TYPE PAPER)  
 OPEN BOOK EXAMINATION

Date: 11<sup>th</sup> March 2009

Time: 09.30 hr. - 13.30 hr.

The questions are grouped in the following manner:

Part A : Q1 – Q4

Part B : Q5 – Q9

Part C : Q10 -Q11

Mark your Index Number and the Part you are answering on the answer book provided to you.

Please answer a total of six questions, choosing not more than three from any single part. Do not use more than 300 words to answer any question.

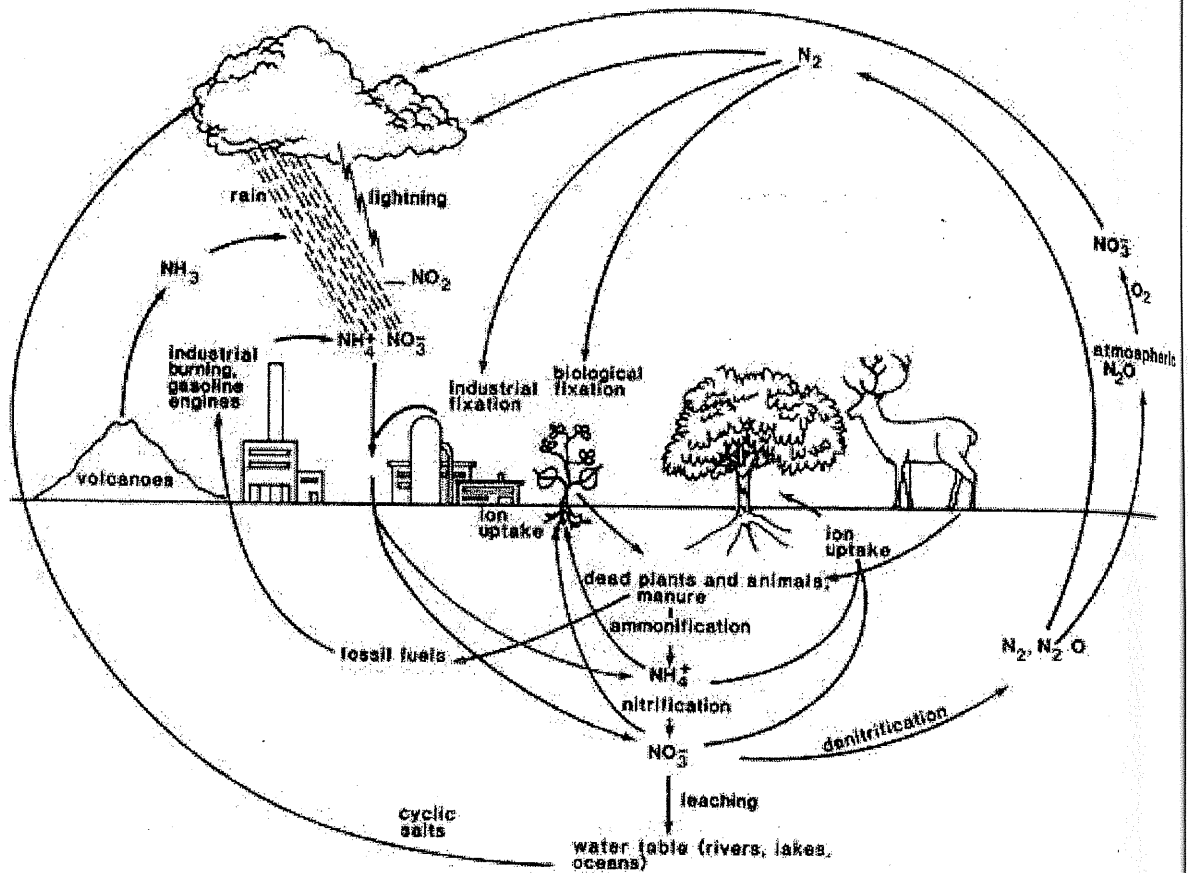
Please do not copy directly from a text. If you have to quote, please do so within inverted commas.

Part A

1. Identify basic resources for production of goods. Discuss using a suitable example why energy resources popularly recognized as renewable may not necessarily be renewable.
2. “Life forms do not violate the second law of thermodynamics”  
Discuss the above statement by using the model of *open systems*
3. (a) Select one from the two technological inventions - (i) motor car or (ii) internet, and discuss briefly how it has changed the social landscape of the world and impacted human lives  
(b) Select one from the two scenarios – (i) Depletion of all cheap oil reserves or (ii) The world becomes a matriarchal society, and discuss briefly how the selected scenario would lead to new trends in technologies
4. The issue of *Technology Justice* is an emerging theme that is currently being discussed worldwide. *Technology Justice* can be defined as “the right of people to decide, choose and use technologies that enable them to live the lives they value without compromising the ability for others and future generations to do the same”. Discuss ways through which *Technology Justice* is being violated in the contemporary world.

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**Part B**



5. a) Name the cycle given in the above diagram.  
 b) What is the percentage composition of that element in the atmosphere?  
 c) Analyze the major aspects of this cycle where environmental concerns are associated with.
  
6. a) Why is an Environmental Impact Assessment (EIA) necessary to be carried out prior to commencement of development projects?  
 b) A private company is planning to construct a golf course and a tourist resort in a tea estate close to the 'Sinhararaja' forest.(news item). List anticipated ecological and social impacts of this project.  
 d) Name a possible Project Approving Agency for this project  
 e) In which stages of the EIA process general public can participate to give their opinion.

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7. a) Explain in your own words the theoretical background behind the concept 'Visual pollution'
- b) Briefly describe a place where you noticed as 'Visually Polluted' according to your knowledge of this concept.
- c) Describe briefly your point of view why you assume that place as such.
8. a) Considering 'Sinharaja forest' as an ecosystem, explain the main biotic and abiotic components in it.
- b) Give an example of a suitable food chain in the above ecosystem.
- c) Explain possible impacts of forest clearing that have led to the basic environmental problems we face today.
9. a) Explain the importance of Biogeochemical cycles in an ecosystem.
- b) What are the causes for depletion of stratospheric ozone layer?
- c) Explain the relationship between sulfur cycle and acid rains.

### Part C

10.

*"The current structure of science in Sri Lanka is the combined result of a British colonial regime and subsequent attempts to generate self-reliance in indigenous scientific capability. Paradoxically, the initial post-independence period was characterized by a sustained attempt to shake off the subtle neo-colonial impact and set in place an institutional frame work that could capitalize on indigenous capability. Unfortunately, (several important factors) continued to restrain efforts for resurgence in scientific capability. This is clearly evident from repeated abortive attempts to commit the government to accept and implement an explicit national policy for science and technology. Sri Lanka, however, can boast of a network of scientific organizations, painstakingly created over the past fifty years. In this context, even if the disabilities inflicted are considered symptomatic of the developing country scenario, there are no strong arguments to justify the current state of the scientific base of Sri Lanka struggling to establish and professionalize the scientific community"* (Source- Evolution and Structure of Science & Technology in Sri Lanka by R.M.W Amaradasa & M.A.T de Silva, 2001)

What are the factors that have restrained efforts for resurgence in scientific capability in Sri Lanka after independence in 1948? Discuss in detail.

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11.

Assume that the subject MPJ5233, "Technology, Society and Environment" is to be revised next year to suit the current realities of the world and you are appointed as a member of the course revision team. By taking into consideration the broad aims of the course that are "to describe the interactions between Technology with Human society and the Natural Environmental and to show its importance in Technology studies" what would be your recommendation?

Would you recommend keeping the subject matter as it is or would you want to change it and introduce new themes?

Present an argument in support of your opinion.