

EASTERN UNIVERSITY, SRI LANKA
SPECIAL DEGREE EXAMINATION IN ZOOLOGY 2003/2004(FEB/MAR 2006)
PART- II

ZL 407- ENVIRONMENTAL SCIENCE

Time: 02 hours

Answer all questions

(Illustrate your answers with clear labelled diagrams where appropriate)

1.
 - a) Define the term “ Environmental Impact assessment” and state the principles of the Rio Declaration..
 - b) i) What is an environmental impact? State its components and how it can be distinguished. ii) Using appropriate graph(s) show the process pathway with considering the positive and negative impacts for a project.
 - c) Draw flow diagram showing the main components of an EIA system.

2.
 - a) State how air pollutants can be classified and controlled , using appropriate examples
 - b) List the health hazards created by asbestos.
 - c) What is meant by the term ‘source reduction” in pollution control?

3.
 - a) What do you understand by environmental modeling? State the advantages of environmental modeling as a tool in environmental engineering.
 - b) A forest of *Kesuarina equisifolia* was planted on 4th April 1970. *K equisifolia* takes 20 to 25 years to reach maturity and can propagate by underground propagules in addition to propagation via seeds. Briefly explain what will happen if a forest fire destroyed the plantation in 2003? (assume that the plantation was left as it was after the fire and that no anthropogenic activities were involved afterwards).
 - c) Considering the recent changes in climate, what could be the possible consequences of forest destruction in the Batticaloa District during the past three decades? Explain briefly.

4.
 - a) “ Nearly seventy percent of the Earth’s surface is water”
Why then is freshwater considered a finite and precious resource? Explain.
 - b) With the aid of a suitable diagram explain what happens to the water, which falls as precipitation on the Earth’s surface.
 - c) “ Large scale Irrigation Development Scheme (i.e the Mahaweli Project) have been implemented in Sri Lanka as a part of the development process” . Discuss the advantages and disadvantages of implementing such a scheme with reference to the impacts on the environment

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