



# UNIVERSITY OF RUHUNA

## Faculty of Engineering

Mid-Semester 8 Examination in Engineering: October 2015

Module Number: CE8329

Module Name: Environmental Management

[Two Hours]

[Answer all questions, each question carries Five marks]

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- Q1. a) "Environmental Impact Assessment (EIA) is an effective planning tool. " Rationalize this statement. [1.25 Marks]
- b) "Scoping is typically introduced after an affirmative (positive) decision has been made on the need for an EIA, although it could also be a component of screening considerations. " Explain this statement. [1.25 Marks]
- c) Identify five 'environmentally sensitive areas' with respect to EIA development process. [1.25 Marks]
- d) In an EIA report, only 'reasonable alternatives' are mentioned. Explain 'reasonable alternatives' using example/s. [1.25 Marks]
- Q2. There is a proposal to construct an express way to Kandy starting from the Kottawa interchange of the existing Southern expressway.
- a) Name **two** aspects to be considered in the scoping and Terms of Reference (TOR) development of the Environmental Impact Assessment (EIA) for the selected project. [1.0 Mark]
- b) Identify **two** significant detrimental impacts for each of 'environmental' and 'social' impacts likely to arise due to this project. [1.5 Marks]
- c) Name a mitigatory measure to minimize each of the identified environmental and social impacts. [1.5 Marks]
- d) In carrying out an EIA for the above project, identify **four** viable alternatives that could be considered under the 'analysis of alternatives'. [1.0 Mark]
- Q3. Construct an interaction matrix that could be used to compare the significant impacts likely to arise during both the construction and operational phases, due to a project on wastewater collection, treatment and disposal. (i.e. You may not fill the interaction boxes) [5.0 Marks]
- Q4. a) Explain briefly the criteria to be included in developing the cost: benefit analysis in an EIA of a water resources development project in which a new dam is constructed across a river in order to provide water for agricultural irrigation. [1.5 Marks]

- b) Explain briefly;
- i) The decision making process of an EIA procedure. [1.0 Mark]
  - ii) The importance of the post-project auditing. [1.0 Mark]
- c) Name five anticipated impacts during each of the construction and operational phases of a project of constructing a multi-storied hotel complex on the coastal line of Hikkaduwa tourist city. [1.5 Mark]