



**RAJARATA UNIVERSITY OF SRI LANKA  
FACULTY OF APPLIED SCIENCES**

**B.Sc. (Special) Degree in Applied Biology  
Fourth Year - Semester I Examination – June/July 2018**

**BIO 4209 – BIODIVERSITY AND ECONOMICS**

**Time: Two (02) hours**

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**Answer four (04) Questions, including question number one (1)**

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1. Write short notes on any **four (4)** of the following,
  - a) Property rights and natural resource management
  - b) Consumer and producer surplus
  - c) Coasian market solution for internalizing externalities
  - d) Total economic value of forest ecosystem
  - e) Tragedy of the commons
  - f) Biodiversity and climate change

**(40 marks)**
  
2. Critically discuss the relationship between biodiversity, eco-system services and human well-being using appropriate examples.

**(30 marks)**
  
3. a) Provide **five (5)** examples for both positive and negative externalities produced by the rural farmers in the Anuradhapura District and briefly explain how positive externality like biodiversity is under supply in a market economy.

**(20 Marks)**

  
b) State the different types of economic instruments that can be used to internalize the externalities.

**(10 Marks)**

4. Discuss any **three (03)** of the following environmental valuation techniques using suitable examples;

- a) Contingent valuation method
- b) Hedonic pricing method
- c) Preventive and replacement cost method
- d) Travel cost method

<sup>3</sup>  
(40 marks)

5. Define the term 'Payments for Ecosystem Services (PES)' and design a PES mechanism for selected natural ecosystem in Sri Lanka. (30 marks)

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