RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

Bachelor of Science in Applied Sciences
Third Year – Semester I Examination – July/August 2023

BDC 3301 – CONCEPTS OF BIODIVERSITY CONSERVATION

Time: Three (03) hours

Answer ALL questions.

1. a) Define the term "genetic diversity" **(05 marks)**

   b) State the different methods of measuring genetic variation. **(30 marks)**

   c) "Processes that shrink the genetic diversity in a population" Discuss this statement using suitable examples. **(65 marks)**

2. a) What are the major predictions of island biogeography theory? **(20 marks)**

   b) How can island biogeography theory be used in conservation strategies for mitigating species loss in fragmented habitats? **(40 marks)**

   c) Provide a brief description of "corridor design and habitat connectivity principles" and explain their applicability in enhancing conservation efforts. **(40 marks)**

3. Based on specific examples:

   a) Describe how protected areas can be effectively utilized for conservation education. **(40 marks)**

   b) Explain the strategies used to carry out educational programs within protected areas. **(60 marks)**

4. Discuss using examples, the statement 'Biodiversity of a country or region provides its people with numerous benefits.' **(100 marks)**

"To what extent does the *focal species concept* serve as a valuable component in understanding and assessing species diversity"? Critically evaluate this statement, substantiating your analysis with appropriate examples. **(100 marks)**

6. Write short notes on the following;

   a) importance of the RAMSAR Convention for biodiversity conservation.

   b) different categories of protected areas.

   c) IUCN categories of threats.

   d) Global Biodiversity hotspots. **(25 marks x4)**

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