RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences
Third Year- Semester I Examination–November/December 2016

BIO 3201 – BIODIVERSITY AND CONSERVATION I

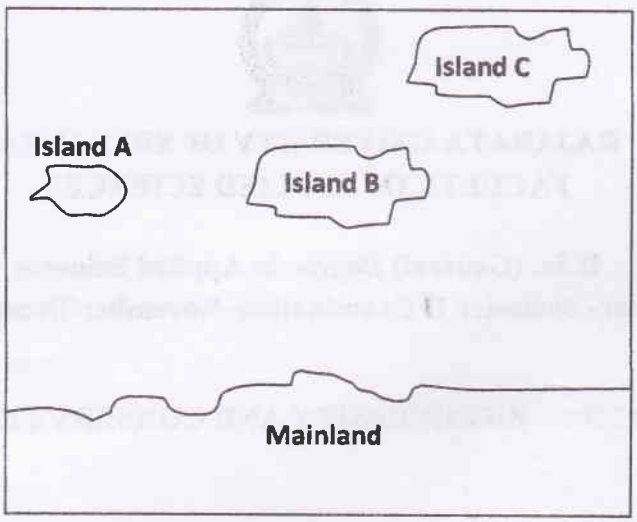
Time: Two (02) hours

Answer four (04) Questions

1. a) Explain the "Keystone species concept".
   b) Outline the different types of keystone species found in nature and give an example for each type.
   c) Using suitable examples, explain the role and importance of Keystone species for maintaining the ecosystem.

2. "Extinction is a natural process that occurred long before human - evolution."
   a) List five major extinctions that took place on Earth.
   b) Why should we be concerned about the extinction in the past and present?
   c) Discuss how island size and distance from mainland affect species colonization and extinction.

3. You are requested to comment on a study on bird communities living in the islands shown in the map given below. Islands A and B are located with equal distances from the mainland but with different sizes. However, island B and C are having the same surface area but with different distances as indicated in the map.



a) Explain the "Island Biogeography" theory.

b) Discuss the implications of Island-Biogeography theory on rates of immigration, extinction, and equilibrium number of bird species in the above mentioned three islands.

4. "Knuckles conservation forest is identified as one of the high biodiversity forest ecosystems in Sri Lanka".

a) State five main montane forests in Sri Lanka.

b) Support the above statement giving the reasons for conserving these forests and list their major economical significances.

c) Explain the major problems that have negative impacts on social life of the surrounding villages of Northern Flank of the Knuckles forest and make recommendations to overcome these problems.

5. Write short notes on the following;

a) importance of assign ecosystem services for valuation of biodiversity in an area

c) biodiversity hotspots in the world

d) positive and negative impacts of edge habitats on biodiversity

END