



**THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. DEGREE PROGRAMME - LEVEL 4
FINAL EXAMINATION 2006 / 2007**

**COURSE TITLE : FUNDAMENTALS OF ECOLOGY- PAPER 2
COURSE CODE : ZOU 2265
DURATION : 3 HOURS**

209

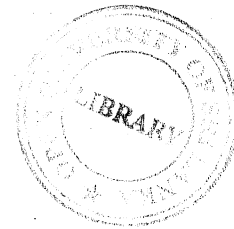
DATE : 23RD OF JUNE 2007

TIME : 1.30 P.M. - 4.30 P.M.

INDEX NUMBER : -----

**ANSWER QUESTION 1 FROM PART A AND ANY FOUR (4) QUESTIONS
FROM PART B.**

**PLEASE NOTE THAT QUESTION 1 IS COMPULSORY AND THE ANSWERS
SHOULD BE WRITTEN IN THE SPACE PROVIDED.**



PART B**ANSWER ANY FOUR QUESTIONS**

2. a) Explain the term "speciation".
b) Describe factors that bring about allopatric speciation in populations.
3. Describe the growth of a population with discrete generations under different situations of the multiplication rate (R_0).
4. "Properties of abiotic components of the biosphere play a significant role in making it a life-supporting system". Elaborate on this statement.
5. Giving examples where necessary explain
 - a) factors which determine the community organization and
 - b) how the organized nature of a community is maintained.
6. Write short notes on any three (03) of the following.
 - a) Survivorship curves.
 - b) Nitrogen fixation.
 - c) Species diversity in oceanic islands.
 - d) Niche characteristics.
7. Describe the important features of the plant communities found on sea-shores and sand dunes of Sri Lanka.

1.2 Briefly explain how the energy flows through the trophic levels in the grazing food chain as shown in figure 1.

1.3 Give two (02) differences between the single energy flow model shown in figure 1 and a two channel energy flow model.

i) -----

ii) -----

1.4 "Energy fixed by producers decreases as it travels through the trophic levels of a food chain".
Validate the above statement giving two (02) reasons.

i) -----
ii) -----

1.5 Name the type of food chain seen among consumers in figure 1.

1.6 a) In what form / forms is/are energy available for decomposers ?

b) Explain the role played by the decomposers in an ecosystem.

1.7 a) Define P.

b) How does A_1 differ from P?

1.8 Explain the relationship between P and "standing crop biomass".

1.9 Outline the methods that could be used in estimating the primary productivity of an ecosystem.

1.10 Name two types of ecosystems in nature which are found to be most productive.

