

THE OPEN UNIVERSITY OF SRI LANKA
B. Sc. DEGREE PROGRAMME - LEVEL 4
FINAL EXAMINATION- 2012/2013
COURSE TITLE: FUNDAMENTALS OF ECOLOGY
COURSE CODE – ZOU2265/ZLU2281
DURATION – 3 HOURS



INDEX NUMBER

DATE: 02.12.2013

TIME -9.30AM-12.30 PM

QUESTION PAPER CONSISTS OF TWO PARTS, PART "A" AND PART "B".

ANSWER QUESTION 1 FROM PART "A" AND ANY FOUR QUESTIONS FROM PART "B".

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

PART "A"

QUESTION 1

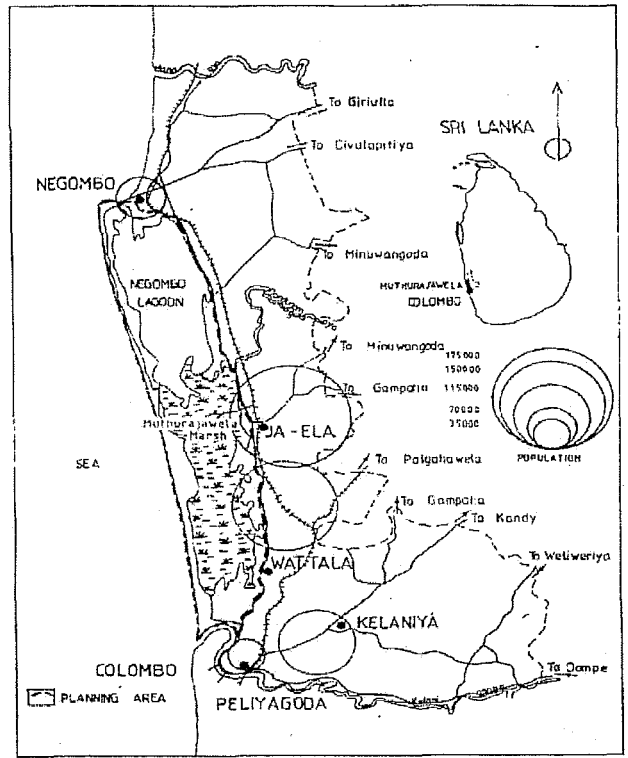
1.1 a) Define an ecosystem.

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1.2 The figure given below shows the Muthurajawela marsh – Negombo lagoon wetland ecosystem.

a) List the common characteristics of this wetland ecosystem.

1.....
2.....
3.....
4.....



b) Explain briefly each of the characteristics that you have mentioned above.

1.....
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2.....
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3.....
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4.....
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1.3. Recognize four distinct habitat types in this ecosystem.

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1.4. What are the main environmental factors that keep changing in this ecosystem?

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1.5. Identify three “sub systems” (according to Tansly) for the Muthurajawela marsh – Negombo lagoon wetland ecosystem and give two examples for each.

1.....

2.....

3.....

1.6. Name the two main types of food chains found in this ecosystem with a simple illustration?

1.....

2.....

1.7 Define the terms, food web and trophic level.

Food web:.....

Trophic level:.....

1.8 a) Construct a hypothetical food web for the Muthurajawela marsh – Negombo lagoon wetland ecosystem.

b) Explain one method that you can use for the construction of a food web and state its limitations.

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1.9 State the two concepts which explain the relationship between features of food webs and the ecosystem stability.

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1.10 Explain how the food webs of a natural ecosystem are affected when exposed to pesticides.

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PART “B”**ANSWER ANY FOUR (04) QUESTIONS**

2. Explain the Lotka and Volterra proposed model for prey-predator interactions.
3. Write an essay on “community characteristics”.
4. Describe the carbon cycle and explain briefly the major human influence on this cycle.
5. You have studied the ecology of fish species living in a small stream in the middle of a forest. Based on your observations, discuss the concepts of habitat and niche.
6. a) Define “maritime ecosystems”?
b) Briefly describe the plant species, special adaptations and the relevant environmental conditions present in the following maritime ecosystems of Sri Lanka.
 - I. Mangroves
 - II Salt marshes
 - III Sea shore vegetation.
7. Write short notes on **any three** of the following.
 - a) Liebig’s Law of tolerance.
 - b) Stratification of terrestrial communities.
 - c) Density independent population regulation.
 - d) Logistic growth curve.

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