



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE

SZL 514: ARTHROPOD ECOLOGY

DATE: Thursday 1st December, 2011

TIME: 9.00 a.m. – 12.00 p.m.

INSTRUCTIONS

Answer any FOUR questions (30 marks each). Illustrate your answers and give examples where appropriate.

1. Give a detailed account of how abiotic factors regulate arthropod population.
2. Discuss how competition between members belonging to different species affect arthropod communities.
3. (a) Differentiate between density and diversity.
(b) Complete the following hypothetical life table:-

	X	l_x	dx	L_x	T_x	e_x	$1000q_x$
1	1000						
2	800						
3	600						
4	400						
5	200						
6	100						
7	50						
8	20						

4. Explain in details the differences between Logistic and Geometric growth curves in theory and in real life situations.

5. (a) Fill in the empty columns in the table below that shows the different ways in which mortality and survival of arthropods can be expressed.

line	Eggs N_E	Small larva N_{L_1}	Large larva N_{L_2}	pupae N_P	Adult N_A
1. Population	2000	1000	500	250	50
2. Number dying in interval	-	-	-	-	-
3. % mortality	-	-	-	-	-
4. Successive % mortality	-	-	-	-	-
5. Successive % survival	-	-	-	-	-
6. Fraction surviving	-	-	-	-	-
7. Log population	-	-	-	-	-
8. k-value	-	-	-	-	-

- (b) Calculate the “real mortality” and the “killing power”

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