



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE

SZL 573: INSECT ECOLOGY

DATE: Wednesday 30th November, 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. Discuss how abiotic factors regulate insect populations.
2. Describe in details the differences between the exponential and sigmoid growth curves in theory and real life situations.
3. (a) Differentiate between dispersal and dispersion.
(b) Complete the following hypothetical life table:-

	X	l_x	d_x	L_x	T_x	e_x	$1000q_x$
1	1000						
2	700						
3	500						
4	300						
5	200						
6	100						
7	50						
8	30						

4. “Large islands and those close to the mainland have more insect species than smaller distant islands”. Discuss this statement.

5. (a) Fill in the empty columns in the table below that shows the different ways in which mortality and survival of insects 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	1500	1000	750	300	20
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 “generation survival” and the “killing power”.

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