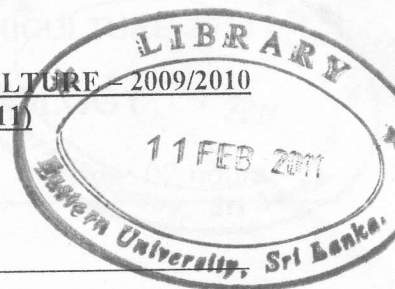


EASTERN UNIVERSITY, SRI LANKA
FINAL YEAR, FIRST SEMESTER EXAMINATION IN AGRICULTURE - 2009/2010
SOIL FERTILITY MANAGEMENT (ACH - 4111)



Answer all questions

Time: One Hour

1. a. Briefly explain the challenges in sustaining soil fertility.
- c. A student wants to do a targeted yield fertilizer recommendation for paddy in his area. He got some data's from his field trial. The average values obtained from several replicates is given below.

	Average yield (qha ⁻¹)	Average Plant uptake (kgha ⁻¹)			Average Soil nutrient (kgha ⁻¹)		
		N	P	K	N	P	K
Control	19.28	30.11	5.0	13.25	175	7.0	132
Treated	38.60	71.36	16.71	99.75	265	16.4	195

If 50 kg ha⁻¹ nitrogen, 30 kg ha⁻¹ phosphorus and 60 kg ha⁻¹ potassium was added, calculate the followings.

- i. Nutrient requirement for nitrogen
 - ii. Nitrogen contribution from soil
 - iii. Nitrogen contribution from fertilizer
 - iv. Nitrogen fertilizer efficiency
2. a. Explain the methods can be used to assess the decline in soil fertility.
- b. Write an account on integrated use of organic manures and chemical fertilizers and its impact on environment and fertilizer use efficiency.
