MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF ENVIRONMENTAL STUDIES

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR BACHELOR OF ENVIRONMENTAL STUDIES (ENVIRONMENTAL RESOURCE CONSERVATION)

ERC 405: ENVIRONMENTAL ACCOUNTING

DATE: 2/8/2017 **TIME: 2:00 – 4:00 PM**

INSTRUCTIONS:

Answer Question One and Any Other Two Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

(a) Explain the difference between the environmental accounts and the system of national accounts. (8 marks)

(b) Briefly describe the following four types of environmental accounts:

(i) Natural resource asset accounts (2 marks)
(ii) Pollution and material physical flow accounts (2 marks)
(iii) Monetary and hybrid accounts (2 marks)
(iv) Environmentally-adjusted macroeconomic aggregates accounts (2 marks)

(c) Briefly explain the importance of incorporating environment in the national accounts framework of Kenya. (5 marks)

(d) Describe the methods used to estimate market values of the stocks of depletable natural resources. (6 marks)

(e) State any six tasks that are collectively undertaken by stakeholders in environmental accounting as a policy process. (3 marks)

QUESTION TWO (20 MARKS)

Discuss any two core approaches in environmental and natural resource accounting.

(20 marks)

QUESTION THREE (20 MARKS)

Assume Table 1 (below) shows the Kenya's Supply, Use & Assets Accounts for 2016 based on the System of National Accounts (SNA). Use it to calculate the following identities:

(i) The supply-use identity (10 marks)

(ii) The value-added identity (10 marks)

QUESTION FOUR (20 MARKS)

Describe any two ways through which environmental accounting can change the way policies are made in Kenya. (20 marks)

QUESTION FIVE (20 MARKS)

Describe any two modules used in valuation of natural resources and environmental impacts based on the system of integrated environmental and economic accounting (SEEA). (20 marks)

Table 1: Supply and Use Asset

	Agriculture	Forestry	Fishing	Mining	Manufacturing	Electricity, gas and water	Construc- tion	Public admi- nistration and defense	Other industries	Total industries	Imports	Exports	Final consumption (government households and NPISHs*)	Gross capital formation**	TOTAL
Output	27,127	9,183	2,201	20,608	240,810	9,618	60,808	29,329	131,786	531,470	71,840				603,310
Intermediate consumption	13,406	4490	1,016	11,916	174,100	4333	27,938	10,505	42,388	290,091		69,432	155,846	87,941	603,310
Gross value added	13,721	4,693	1,185	8,692	66,710	5285	32,871	18,824	89,398	241,379					
Consumption of fixed capital	4,528	885	272	2,303	7,436	1307	2,311	916	3,967	23,925					
Net value added	9,193	3,808	913	6,389	59,274	3978	30,560	17,908	85,431	217,454					
Compensation of employees	2,923	2281	235	2,140	31,701	1,014	21,553	17,904	32,837	112,588					
Operating surplus	5,728	1,340	664	3,827	17,903	2,641	6,336	4	37,790	76,233					
Taxes less subsidies	542	187	14	422	9,670	323	2,671		14,804	28,633					