KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR

FOURTH YEAR 2ND SEMESTER Main EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE&BIOTECHNOLOGY

COURSE CODE: IAE 400
COURSE TITLE: NATURAL RESOURCE MANAGEMENT

DATE: 7TH AUGUST 2018   **TIME: 2 – 4 PM**

INSTRUCTIONS TO CANDIDATES

Answer Question One and any other two (2) Questions

TIME: 2 Hours

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Q1.

a) Given the following inverse demand curve function for a fishery resource which is linear and stable over time, its inverse demand function in year t can be written as

$$P_t = 40 - 0.2q_t$$

Assume that the marginal cost of extracting the resource is a constant 4 and hence marginal cost is given as,

$$MC = 4$$

Where p_t = Price of the product and q = is the quantity demanded or supplied in each period,

Required

i) If 30 units are to be allocated between two periods in a dynamic efficient allocation, how much would be allocated to the first and second period respectively when the discount rate (r) is zero? **(8 Marks)**

ii) What would be the marginal user cost in each period? **(6 Marks)**

iii) What would be the efficient price in the two periods? **(6 marks)**

b) In a quest to conserve the endangered wildlife species in Maasai Mara game reserve, you have been inco-operated into the team of experts which will oversee the process.

Required

i) Advice on the steps to be taken in order to conserve the endangered wildlife species in the game reserve **(10 marks)**

Q2.

a) Write short notes on the following concepts as used in natural resource management

i) Non -use values **(4 marks)**

ii) Surrogate markets **(3 marks)**

iii) Impure public goods **(3 marks)**

b) Explain the characteristics of property rights **(10marks)**

Q3.

Discussthe approaches of natural resource management in your county   **(20 marks)**

Q4.

a) Suppose the inverse demand curve function (expressed in KS.)of soapstone as a delectable resource is given as

$$P=20-4q$$

$$MC=q$$

Where p=price of fish and q=is the quantity demanded or supplied, MC=Marginal cost

Required

i)	How much will be supplied in static allocation efficiency	**(5 Marks)**
ii)	State and explain any other allocation that would be efficient.	**(4 marks)**
iii)	Proof your answer in (ii) above	**(5 marks)**
b)	Explain the challenges to resource conservation in Isiolo county	**(6 marks)**