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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY UNIVERSITY EXAMINATION, 2019/2020 ACADEMIC YEAR SECOND YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE (BUSINESS ADMINISTRATION)

Date: 5th December, 2019 Time: 2.30pm – 4.30pm

KFI 201 - INTERMEDIATE MICRO ECONOMIC THEORY

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (20 MARKS)

a)	Assuming a two commodity case of a Cobb-Douglas utility function U=	$=X_1^{0.5}X_2^{0.5}$.
	Determine the consumption demand function.	(6 Marks)
b)	Explain the effect of an income change for an inferior good.	
		(3 Marks)
c)	Explain the effect of a price change for a giffen good.	
		(3 Marks)
d)	Distinguish between the effect of sales tax and income taxes yielding th revenue for the government.	e same amount of
		(8 Marks)
e)	Given the production function of $Y=2X^{0.5}$. Derive profit function, input and output supply function.	demand function
		(10 Marks)

QUESTION TWO (20 MARKS)

a) Explain the characteristics of public goods. (6 Marks)
b) Distinguish between negative and positive externalities. (6 Marks)
c) Two persons A and B living together in one room with one a smoker and the other non-smoker have preference over money and smoke. Assuming no restriction on smoking, explain the allocation of the clean air resource endowment. (8 Marks)

QUESTION THREE (20 MARKS)

- a) Firm S produces some amount of steel, s, and certain amount of pollution, x, which it dumps into a river. Firm F, a fishery, is located downstream and is adversely affected by firm S; s pollution. Suppose that firm S's cost function is given by Cs(s,x), where s is the amount of steel produced and x is the amount of pollution produced. Firm F's cost function is given by $C_f(f,x)$, where f indicates the production of fish and x is the amount of pollution.
 - i) What is the implication of firm F cost function on fish production?

	(2 Marks)		
ii)	What is the profit maximization problem for steel and fish firms?		
	(4 Marks)		
iii)	State the conditions characterizing the two firms profit maximization.		
	(2 Marks)		
iv)	What does a Pareto efficient production plan for steel and fish look like?		
	(6 Marks)		
Expla	in any two methods of controlling externality.		
	(6 Marks)		

QUESTION FOUR (20 MARKS)

b)

a)	Discu	ss the phenomenon 'tragedy of the commons'		
			(4 Marks)	
b)	Two f	firms in an industry in an industry are making decisions on the outp	out. The linear	
	dema	nd functions are given as $P=a-Q$ where $Q=q_a+q_b$.		
	i)	Assuming they are simultaneously choosing quantity, what is the	Nash	
		equilibrium?	(8 Marks)	
	ii)	ii) If they are sequentially choosing output, what is the Nash equilibrium?		
			(8 Marks)	
	iii)	What is the implication of the two set of decisions.		
			(4 Marks)	

QUESTION FIVE (20 MARKS)

a) Assume a duopoly market, prove that in a perfectly competitive market the price equated to marginal cost will always be a Nash equilibrium.

(10 Marks)

b) Distinguish between increasing returns to scale and decreasing returns to scale.

(4 Marks)

c) Given a Cobb-Douglas production function $Q=2k^{0.5}L^{0.5}$. Explain the concept of a firms least cost factor combination. (6 Marks)