



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

**FIRST SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF
ECONOMICS**

EAE 802: PLANNING TECHNIQUES

DATE: Thursday 24th November 2016

TIME: 9.00a.m -12.00p.m

INSTRUCTIONS: *Answer ALL Questions*

QUESTION ONE

- a) Briefly explain the role of government in production. (5 Marks)
- b) Discuss the limitations of the incremental capital-output ratio (ICOR) as a planning tool. (5 Marks)
- c) Analyze the basic questions in general equilibrium theory. (5 Marks)

QUESTION TWO

- a) The county government of Turkana is considering installing a water treatment system at Lodwar that is expected to cause environmental and direct benefits of Ksh.50,000, 000 per year for the residents of Lodwar town. The water treatment system will cost kshs.45,000,000 to install and the running and maintenance cost will be Kshs.15,000,000 per annum for the expected life time of 20 years, after which it would have no value.
 - i) If the cost of capital is 6 percent per annum, is this project justified on the economic basis? (5 Marks)
 - ii) Suppose World Vision Kenya (a non-governmental organization) is to put into the project Kshs.20,000,000, how will the decision change? (3 Marks)
- b) Kitui County government has identified the following projects with their cost-benefit ratios (CBR) and complementarity structures for implementation in the 2017-2021 medium term frame work.

	Projects	CBR	Complementary Structures				
			1	2	3	4	5
1	Irrigation	0.85		39.0	99.2	67.5	74.0
2	Coal mining	0.65	39.0		41.0	37.4	90.7
3	Soil conservation	0.71	99.2	41.0		47	81
4	A rail project	0.72	67.5	37.4	47		69
5.	Road Project	0.91	74.0	90.7	81	69	

If the country's savings and loan commitments can only allow two projects to be implemented, which are they and why? (3 Marks)

c) Briefly discuss the limitations of cost-benefits analysis. (4 Marks)

QUESTION THREE

- a) A firm that wishes to produce tyres and wheels for motor cycles for the Kenyan market has a cost function of the form $C=200L+500K$ where L stands for units of labour and K stands for units of capital with 200 and 500 being the unit cost of labour and capital respectively. To produce 1 tyre requires 1 unit of labour and 2 units of capital, and to produce 1 wheel requires 3 units of labour and 1 unit of capital. To break-even the firm must produce at least 600 units of tyres and 600 units of wheels per day. Using simplex method solve the problem. (7 Marks)
- b) Briefly discuss the uses and weaknesses of Computable General Equilibrium (CE) model of planning. (8 Marks)

QUESTION FOUR

- a) You are given the following simple social accounting matrix (SAM) for country Z.

	Agriculture	Industry	Household	Government	Total
Agriculture	50	20	225	15	110
Industry	30	30	15	5	80
Household	20	10	0	15	45
Government	10	20	5	22	37
Total	110	80	45	37	270

- i) Interpret government column and the household row. (2 Marks)
- ii) Given that the final demand component is given by the sum of household and government expenditure columns, and the plans to increase the final demand component by 20 per cent in agriculture and 15 per cent in industry, find by how much the gross output of the two sectors should change. (9 Marks)
- iii) Briefly discuss the use of social accounting matrix. (4 Marks)