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KENYATTA UNIVERSITY
DEPARTMENT OF APPLIED ECONOMICS
EAE 201: ECONOMICS OF PUBLIC EXPENDITURE
SEMESTER 11 2019/2020: DSVOL

Instructions: Answer question ONE and any other TWO questions

Question One (30 Marks)

a) Define the following terms as used in public sector economics ~~(10 Marks)~~

   i. Logrolling (2 Marks)
   ii. Property Rights (2 Marks)
   iii. Pecuniary externality (2 Marks)
   iv. Merger (2 Marks)
   v. Budget deficit (2 Marks)

b) A community with 5 members derives satisfaction from clean air with the individual benefit expressed as: $MBx = 10 - 0.4x$. What is the socially optimal quality of clean air for this community if the marginal cost of cleaning air is $MC = 10+2x$? (6 marks)

c) Explain why a pure public good may not be supplied by the private mechanism. (4 marks)

d) In most cases, it is assumed that governments are better placed to bring about efficiency where private markets fail. ~~This is not a realistic assumption.~~ Explain any five reasons why ~~it is unrealistic assumption~~ this assumption is unrealistic. (10 marks)

Question Two (20 Marks)

(a) Using appropriate examples discuss five main justifications for the existence of the public sector (10 Marks)

(b) A firm produces commodity Q and exports each unit of the commodity to Tanzania at Ksh 32. The cost of production is given by a function: $C= 2Q^2$. The production of commodity Q is associated with some pollution given by the function: $D = 2Q + Q^2$. Suppose property rights to the firm ~~Athi river belong to the Leather Tannery Ltd.~~ firm. ~~incomplete~~

(i) How much of commodity Q will be produced if no negotiations take place? Show all your workings (5 Marks)

(ii) Suppose the community negotiates with the firm to address pollution, what level of output will paper mill produce? (5 Marks)

Quetsion Three (20 Marks)

(a) A School Principal has presented two School projects for evaluation by the School Board. The two projects are Agribusiness Project and a School Bus Project. You have been asked by the Principal to prepare a tentative evaluation report on the two projects so as to help the Board make an informed decision.

You are further provided with the following information on the projects cash flow:

Years	School Bus Project Cash flow (Ksh)	Agri-business Project Cash flow (Ksh)
0	(10,000,000)	(5,000,000)
1	100,000	60,000
2	200,000	100,000
3	200,000	150,000
4	250,000	270,000
5	350,000	310,000

Using the NPV method which project should the Board adopt assuming a discount rate of 15 per cent? Clearly justify your answer. (10 Marks)

(b) Explain the five determinants of political equilibrium (10 Marks)

Question Four (20 Marks)

a) Describe the set of marginal conditions necessary for optimal resource allocation **(12 marks)**
b) If some of the conditions are not met in part (a) above, can we be assured of increased welfare? Explain your answer (8 Marks)

Question Five (20 Marks)

~~(c)~~ Consider an economy with two consumers, Ben and Joe. There is public good in this economy in a form of tornado sirens. Ben's demand for tornado sirens is given by P = 10 - Q, and Joe's demand for tornado sirens is P = 8 - 2Q. The marginal cost for providing tornado sirens in the markets is constant at MC = 9.

~~**Required**~~

i. Which two properties must be satisfied for sirens to qualify to be public goods? Explain your answer. (5 marks)
ii. Is there a potential for free-rider problem? Explain (3 marks)
iii. Derive market demand curve for sirens. (4 marks)
iv. How many sirens will be provided in the market? (5 marks)
v. What will be the price for these sirens? (3 marks)