

**ECS3704
ECS304G**May/June 2013
Mei/June 2013**PUBLIC ECONOMICS
OWERHEIDSEKONOMIE**Duration 2 Hours
Tydsduur 2 Uur100 Marks
100 Punte**EXAMINERS / EKSAMINATORE**FIRST / EERSTE PROF TJ STEENEKAMP
SECOND / TWEEDE PROF T VAN DER MERWE
EXTERNAL / EKSTERNE DR NFK MONKAMClosed book examination
Toeboekeksamen.

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This paper consists of 27 pages including 3 pages for rough work (pp 25 to 27) plus the special front page

Hierdie vraestel bestaan uit 27 bladsye insluitende 3 bladsye vir rofwerk (pp 25 tot 27) plus die spesiale voorblad

STUDENT NUMBER / STUDENTENOMMER									

This paper consists of 2 sections Section A consists of three questions **ALL the questions in Section A must be answered** Section A counts 40 marks Section B consists of five questions You must answer **any THREE** of the five questions in Section B Section B counts 60 marksHierdie vraestel bestaan uit 2 afdelings Afdeling A bestaan uit drie vrae **AL die vrae in Afdeling A moet beantwoord word** Afdeling A tel 40 punte Afdeling B bestaan uit vyf vrae U moet **enige DRIE** van die vyf vrae in Afdeling B beantwoord Afdeling B tel 60 punte**[TURN OVER]
[BLAAI OM]**

SECTION A / AFDELING A

You must answer **ALL** the questions in this section

U moet al die vrae in hierdie afdeling beantwoord

QUESTION 1 / VRAAG 1

(a) Define X-inefficiency (2)

(a) Definieer X-ondoeltreffendheid (2)

(b) Protection provided by the South African Defence Force is an example of a pure public good Why? (2)

(b) Beskerming wat deur die Suid-Afrikaanse Weermag verleen word, is 'n voorbeeld van 'n suiwer owerheidsgoed Waarom? (2)

(c) Underline the correct option According to Meltzer and Richard, when the income of the median voter lies (*below / above*) the average income, there will be pressure to redistribute income (1)

(c) Onderstreep die korrekte opsie Indien die inkome van die mediaankieser (onder / bo) dié van die gemiddelde kieser lê, sal daar druk vir inkomeherverdeling wees volgens Meltzer en Richard (1)

(d) What is meant by tax progressivity? (2)

(d) Wat word bedoel met belastingprogressiwiteit? (2)

- (e) Describe the ability-to-pay principle. What is the most important shortcoming of this tax principle? (3)
- (e) Beskryf die vermoë-om-te-betaalbeginsel. Wat is die vernaamste tekortkoming van hierdie belastingbeginsel? (3)

[10]**QUESTION 2 / VRAAG 2**

- (a) "The fundamental difference between the public and private good cases is the manner of deriving the market demand curve". Discuss this statement with the aid of two diagrams. Also state how the respective equilibrium conditions for optimal provision and pricing differ (in mathematical terms). (15)
- (a) "Die belangrikste verskil tussen 'n owerheidsgoed en private goed is die wyse waarop die markvraagkromme afgelei word". Bespreek hierdie stelling met behulp van twee diagramme. Stel verder hoe die relevante ewewigsvoorwaardes vir optimale voorsiening en prysvasstelling verskil (in wiskundige terme). (15)

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(a) Compare, with the aid of a diagram, the incidence of a unit tax levied on the suppliers of an essential product to that of the same unit tax levied on the suppliers of a luxury product. Assume a 'normal' supply curve that increases from left to right. What is your conclusion with regard to the impact of elasticities on tax incidence? (15)

(a) Vergelyk met behulp van 'n diagram, die vestiging van 'n eenheidsbelasting wat op die verskaffers van 'n noodsaaklike produk gehef word met 'n soortgelyke belasting wat op 'n luukse produk gehef word. Veronderstel 'n 'normale' aanbodkromme wat van links na regs styg. Wat is u gevolgtrekking met betrekking tot die invloed van elasticiteite op belastingvestiging? (15)

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SECTION B / AFDELING B

Answer any **THREE** of the following five questions

Beantwoord enige **DRIE** van die volgende vyf vrae

QUESTION 4 / VRAAG 4

- (a) Discuss Condition 3 (top-level simultaneous equilibrium) of the benchmark model of resource allocation as follows
- (i) Provide the mathematical equation that summarises this condition (2)
 - (ii) Illustrate the top-level simultaneous equilibrium by means of a diagram **only** (5)
 - (iii) At what point(s) in your diagram is a Pareto-optimal top-level equilibrium achieved? Why is that a **Pareto-optimal** equilibrium? (3)
- (10)
- (b) Contrast the policy options government could use to address inefficiencies caused by an "artificial" (or statutory) monopoly and a natural monopoly (10)

[20]

- (a) Beskryf **slegs** Voorwaarde 3 (hoogstevlak gelyktydige ewewig) van die normstellingmodel (*benchmark model*) vir hulpbrontoekenning soos volg
- (i) Verskaf die wiskundige vergelyking wat hierdie voorwaarde opsom (2)
 - (ii) Illustreer die hoogstevlak gelyktydige ewewig **slegs** deur middel van 'n diagram (5)
 - (iii) By watter punt(e) in u diagram word 'n Pareto-optimale hoogstevlakewewig bereik? Waarom is dit 'n **Pareto-optimale** ewewig? (3)
- (10)
- (b) Kontrasteer die beleidsopsies wat die owerheid kan gebruik om ondoeltreffendheid wat veroorsaak word deur 'n "kunsmatige" (of statutêre) monopolie en 'n natuurlike monopolie aan te spreek (10)

[20]

QUESTION 5 / VRAAG 5

- (a) Explain with the aid of a diagram why it would be efficient to rather tax goods with price-inelastic demands instead of price elastic goods (assume a horizontal supply curve) What are the implications for tax revenue and equity of this elasticity rule? (15)
- (b) Briefly discuss the relationship between the personal income tax rate and tax revenue popularised by Arthur Laffer (**Do not** use a diagram) (5)

[20]

- (a) Verduidelik met behulp van 'n diagram waarom dit doeltreffend is om eerder goedere waarvan die vraag prys-onelasties as prys elasties is, te belas (veronderstel 'n horisontale aanbodkromme) Wat is die implikasies vir belastinginkomste en billikheid van hierdie elastisiteitsreël? (15)

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- (b) Bespreek kortliks die verwantskap tussen die persoonlike inkomstebelastingkoers en belastinginkomste soos deur Arthur Laffer gepopulariseer (**Moet nie 'n diagram gebruik nie**)

(5)

[20]**QUESTION 6 / VRAAG 6**

- (a) Explain with the use of a diagram what the effect of a cash transfer is on work effort. How does the funding of the cash transfer using a personal income tax, impact on work effort?

(14)

- (b) By making a few assumptions it can be shown that an additive social welfare function (e.g. $W = U_a + U_b + \dots$) will require that government redistributes income completely equally. Discuss these assumptions critically.

(6)

[20]

- (a) Gebruik 'n diagram om die effek van 'n kontantoordeel op werkspoging te verduidelik. Hoe sal die finansiering van so 'n oordeel deur middel van persoonlike inkomstebelasting werkspoging raak?

- (b) Deur die maak van enkele aannames kan aangetoon word dat 'n additiewe sosiale-welvaartsfunksie (bv. $W = U_a + U_b + \dots$) sal vereis dat die owerheid inkomme volkome gelyk moet herverdeel. Bespreek hierdie aannames krities.

(6)

[20]**QUESTION 7 / VRAAG 7**

- (a) Discuss with the aid of a diagram, why government should intervene when a factory producing steel causes a negative externality (e.g. pollution).

(10)

- (b) Discuss the assignment of spending responsibilities to national and sub-national governments. (Use the three broad economic functions of government as a point of departure.)

(10)

[20]

- (a) Bespreek met behulp van 'n diagram waarom die owerheid moet inmeng wanneer 'n fabriek wat staal produseer 'n negatiewe eksternaliteit veroorsaak (b.v. besoedeling).

(10)

- (b) Bespreek die toedeling van bestedingsverantwoordelikhede aan nasionale en subnasionale regerings. (Gebruik die drie breë ekonomiese funksies van die owerheid as 'n vertrekpunt.)

(10)

[20]

QUESTION 8 / VRAAG 8

- (a) Assume two products are produced in the economy food and clothing Food is produced using labour-intensive techniques whereas clothing is produced using capital-intensive techniques Use the general equilibrium approach to explain the incidence of a selective tax on food **No diagrams** are required (10)
- (b) Explain using two diagrams how the maximising behaviour of bureaucrats could contribute to an oversupply of public goods (the Niskanen model of bureaucratic failure) (10)

[20]

- (a) Neem aan dat twee produkte in die ekonomie geproduseer word te wete voedsel en klere Voedsel word met arbeidsintensiewe tegnieke en klere met kapitaalintensiewe tegnieke geproduseer Gebruik die algemene ewewigsbenadering om die vestiging van 'n selektiewe belasting op voedsel te verduidelik **Geen diagramme** word benodig nie (10)
- (b) Deur gebruik te maak van twee diagramme, verduidelik hoe die maksimeringsoptrede van burokrate kan lei tot die oorvoorsiening van owerheidsgoedere (die Niskanen burokratiese mislukkingmodel) (10)

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- (b) Contrast the policy options government could use to address inefficiencies caused by an "artificial" (or statutory) monopoly and a natural monopoly (10)
- (b) Kontrasteer die beleidsopsies wat die owerheid kan gebruik om ondoeltreffendheid wat veroorsaak word deur 'n "kunsmatige" (of statutêre) monopolie en 'n natuurlike monopolie aan te spreek (10)

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- (b) Briefly discuss the relationship between the personal income tax rate and tax revenue popularised by Arthur Laffer (**Do not** use a diagram) (5)
- (b) Bespreek kortliks die verwantskap tussen die persoonlike inkomstebelastingkoers en belastinginkomste soos deur Arthur Laffer gepopulariseer (**Moet nie** 'n diagram gebruik nie) (5)

[illegible]

- (b) By making a few assumptions it can be shown that an additive welfare function (e.g. $W = U_a + U_b + \dots$) will require that government redistributes income completely equally. Discuss these assumptions critically. (6)
- (b) Deur die maak van enkele aannames kan aangetoon word dat 'n additiewe sosiale-welvaartsfunksie (bv. $W = U_a + U_b + \dots$) sal vereis dat die owerheid inkome volkome gelyk moet herverdeel. Bespreek hierdie aannames krities. (6)

(a) Discuss with the aid of a diagram, why government should intervene when a factory producing steel causes a negative externality (e.g. pollution) (10)

(a) Bespreek met behulp van 'n diagram waarom die owerheid moet inmeng wanneer 'n fabriek wat staal produseer 'n negatiewe eksternaliteit veroorsaak (bv. besoedeling) (10)

[illegible]

- (b) Discuss the assignment of spending responsibilities to national and sub-national governments (Use the three broad economic functions of government as a point of departure) (10)
- (b) Bespreek die toedeling van bestedingsverantwoordelikhede aan nasionale en subnasionale regerings (Gebruik die drie breek ekonomiese funksies van die owerheid as 'n vertrekpunt) (10)

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- (b) Deur gebruik te maak van twee diagramme, verduidelik hoe die maksimeringsoptrede van burokrate kan lei tot die oorvoorsiening van owerheidsgoedere (die Niskanen burokratiese mislukkingmodel) (10)

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