

**ECS2601**

(482398)

October/November 2013

MICROECONOMICS

Duration 2 Hours

100 Marks

EXAMINERS

FIRST

MS SY HO

SECOND

DR B MOYO

Use of a non-programmable pocket calculator is permissible.

Closed book examination.

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This paper consists of 18 pages, instructions for the completion of a mark reading sheet and a special front page

STUDENT NUMBER									

NB! NB! NB!**The unique number for ECS2601 is 482398****[TURN OVER]**

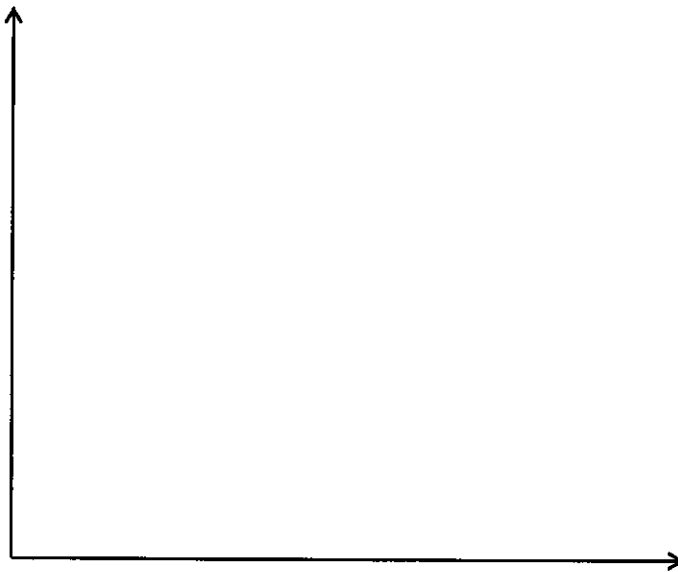
SECTION A

Candidates must answer QUESTION 1 **AND** one of either QUESTION 2 **or** QUESTION 3. All questions carry equal marks, namely 20 marks per question. Section A therefore counts 40 marks out of a total of 100.

QUESTION 1 (20 marks)

- 1 (a) Lindiwe has a budget of R120. The price of food is R15 and the price of clothes R10.

- (i) Draw a budget line, with food on the horizontal axis. (2)

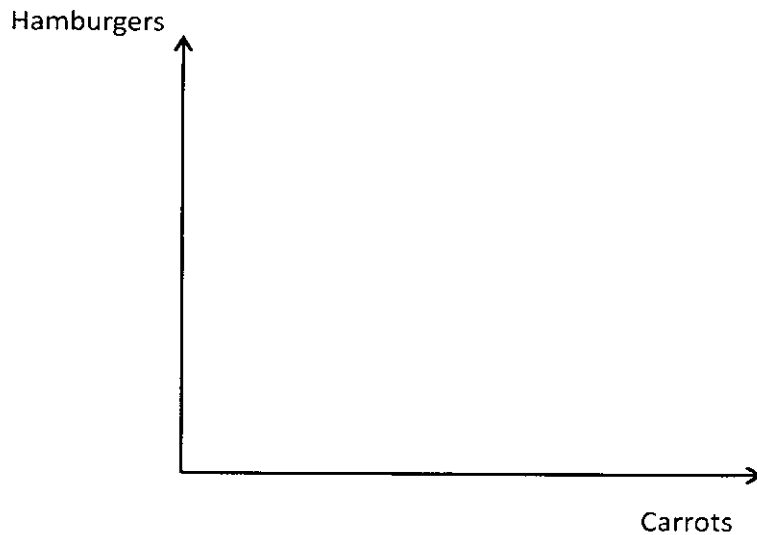


- (ii) If an indifference map exists, show Lindiwe's equilibrium point on the diagram above. (2)
- (iii) Which condition must be satisfied to gain equilibrium? (2)

(b) Draw a set of indifference curves for the following pairs of goods

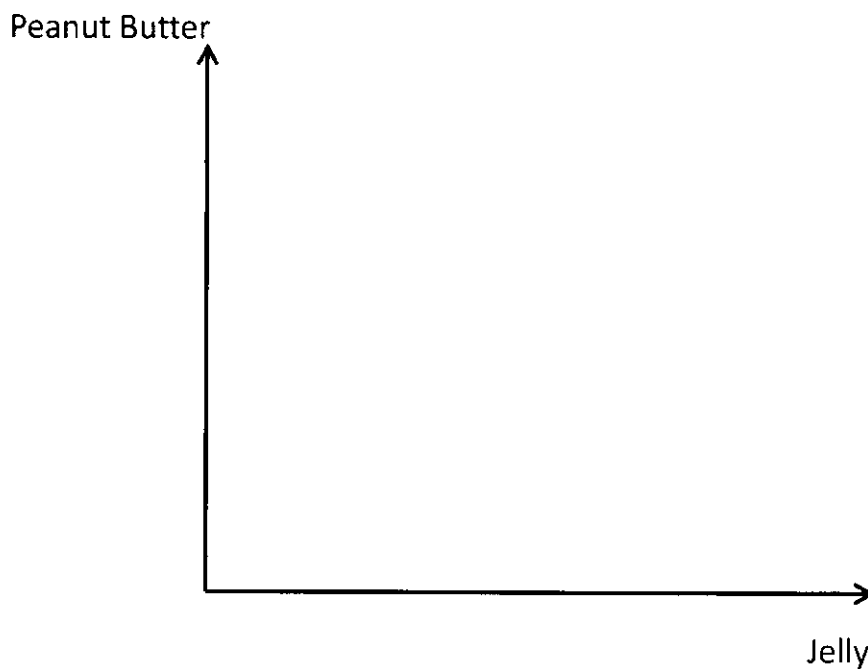
- (i) Hamburgers and carrots for a vegetarian who neither likes nor dislikes meat
(Vegetarians do not eat meat)

(2)



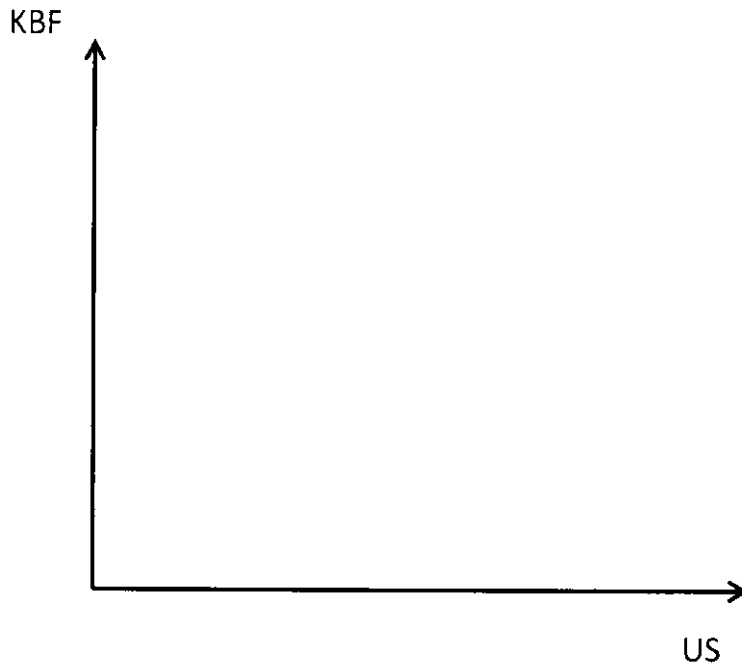
- (ii) Peanut butter and jelly for an individual who will not eat peanut butter sandwiches or jelly sandwiches, but loves peanut butter and jelly sandwiches made with two parts peanut butter and one part jelly

(2)

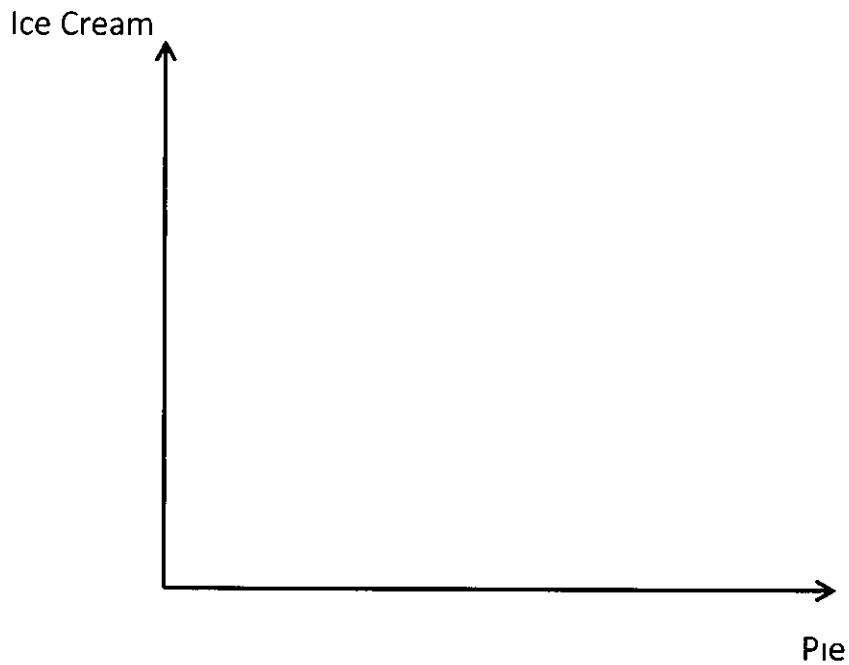


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- (iii) Tickets for Knott's Berry Farm (KBF) and Universal Studios (US) for a tourist who believes that KBF and US are perfect substitutes (2)



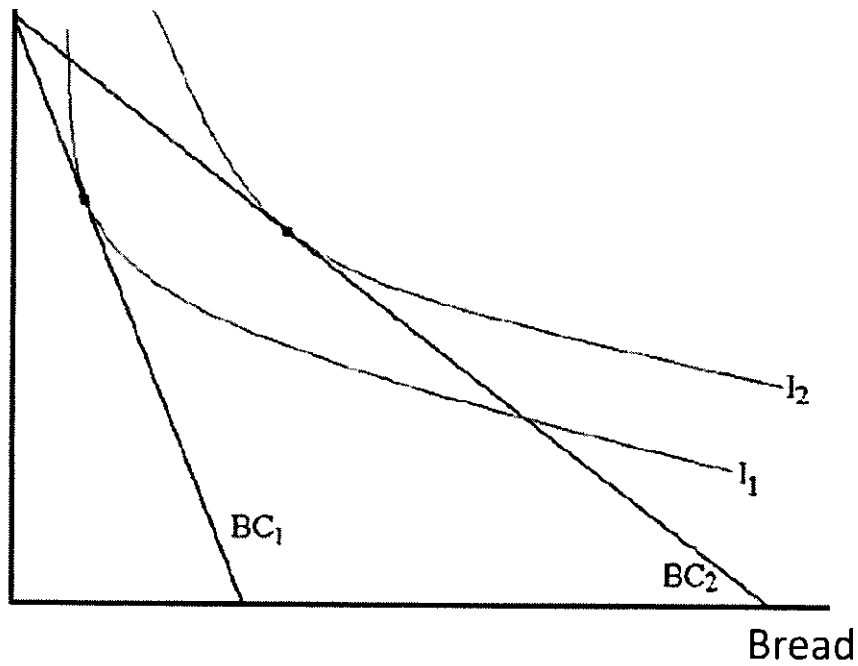
- (iv) Ice cream and pie if these are goods you like, but if you consume enough of either, you get sick of them. If you are sick of a good, consuming more of it lowers your utility (2)



- (c) The diagram below depicts the change in optimal consumption bundles for Mpho when the price of bread decreases. Decompose the change into the income and substitution effects. Indicate the total effect, income effect and substitution effect in the diagram

(6)

Drinks



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QUESTION 2 (20 marks)

2 (a) The following table contains information on a price-taking competitive firm

(i) Complete the table

(8)

Output	Total cost	Marginal cost	Average cost	Total revenue	Average revenue	Marginal revenue
0	5	-	-		-	-
1	9					
2			7.5			
3		8	23/3			
4	33					
5			9	50		

(ii) Determine and explain the profit-maximising level of output

(4)

(b) A fast-food restaurant currently pays R5 per hour for servers and R50 per hour to rent ovens and other kitchen machinery. The restaurant uses seven hours of server time per unit of machinery time.

(i) Determine whether the restaurant is minimising its cost of production when the ratio of marginal products (capital to labour) is 10

(6)

[TURN OVER]

- (ii) If not, what adjustments are called for to improve the efficiency of resource use?

(2)

QUESTION 3 (20 marks)

- 3 (a) Describe the difference between the Cournot model and the Stackelberg model

(6)

- (b) Two firms operating in the same market must choose between a collusion price and a cut price. Firm A's profit is listed before the comma, and B's outcome after the comma. If each firm tries to choose a price that is best for it, regardless of the other firm's price, which actions would firm A and firm B choose?

(8)

	Firm B cuts	Firm B colludes
Firm A cuts	8,8	20,0
Firm A colludes	0,20	12,12

- (c) Harding Enterprises has developed a new product called the Gillooly shillelagh. The market demand for this product is given as follows

$$Q = 240 - 4P$$

- (i) If the shillelagh is priced at R40, what is the point price elasticity of demand? (4)

- (ii) Is demand elastic or inelastic? (2)

[illegible]

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SECTION B

In this section **ALL** the questions must be answered on the attached **mark-reading sheet**. **Carefully follow the instructions for the completion of mark-reading sheets.** Also pay attention to the following

- (i) Suppose a question reads as follows

8 A simultaneous increase in supply and demand must result in

- [1] a price increase
- [2] a price decrease
- [3] an increase in quantity
- [4] a change in the law of demand
- [5] None of the above

The correct statement is [3] and you must therefore mark [3] on the **mark-reading sheet**

- (ii) Only one of the alternatives per question is correct. You must therefore not mark more than one alternative for each question
- (iii) For each correct answer you will receive **two marks**. No marks will be deducted for incorrect answers
- (iv) Section B consists of 30 questions and counts 60 marks out of a grand total of 100 marks
- (v) **Place the completed mark-reading sheet in your examination book.**

Your mark-reading sheet may get lost and you **MUST** therefore also write down your answers for this section on page 18 in your examination book, for example 1 [4], 2 [3], 3 [1], etc

THE FOLLOWING ABBREVIATIONS MAY APPEAR IN THIS SECTION:

P_x	= price of good x	AR	= average revenue
Q_B	= quantity of good B	MR	= marginal revenue
MRS	= marginal rate of substitution	AP	= average product
MRTS	= marginal rate of technical substitution	MP	= marginal product TP
MRT	= marginal rate of transformation	MU_A	= marginal utility of good A
MC	= marginal cost	TR	= total revenue
SAC	= short-run average cost	ACC	= average constant cost
LAC	= long-run average cost	TC	= total cost
LTC	= long-run total cost	AVC	= average variable cost
STC	= short-run total cost	TCC	= total constant cost
SMC	= short-run marginal cost	TVC	= total variable cost
LMC	= long-run marginal cost		

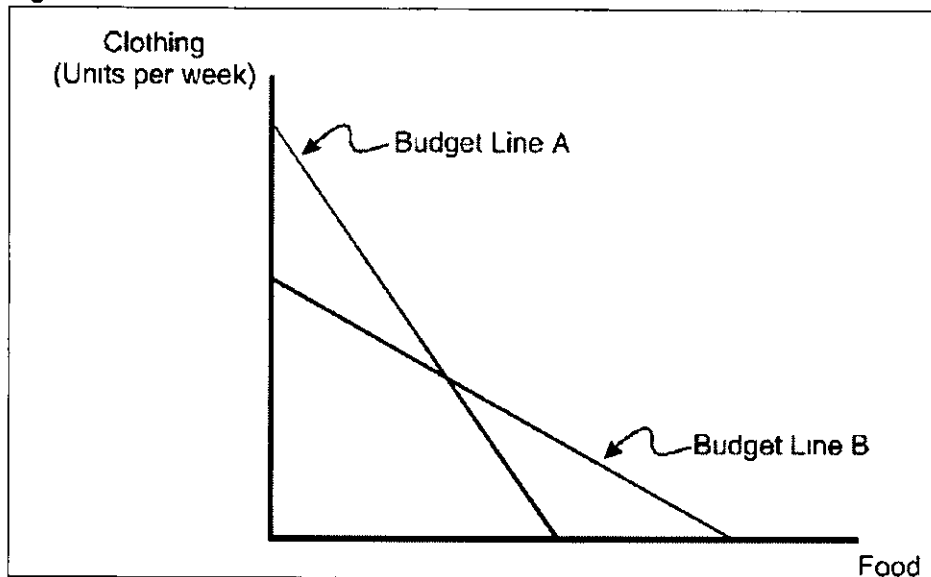
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SECTION B MULTIPLE-CHOICE QUESTIONS

- 1 Which of the following is a positive statement?
- [1] The President of South Africa should be elected by a direct vote of the South African people rather than the ruling party
 - [2] Because many adults cannot afford to go to university, tax credits for tuition should be introduced
 - [3] A fundamental assumption of the economic theory of consumer behaviour is that consumers always prefer having more of any good to having less of it
 - [4] All of the above
 - [5] None of the above
- 2 Along any downward-sloping straight-line demand curve ———
- [1] both the price elasticity and slope vary
 - [2] the slope varies, but the price elasticity is constant
 - [3] both the price elasticity and slope are constant
 - [4] the price elasticity varies, but the slope is constant
 - [5] None of the above
- 3 If two goods are substitutes, the cross-price elasticity of demand must be ———
- [1] negative
 - [2] zero
 - [3] positive
 - [4] infinite
 - [5] constant
- 4 A consumer prefers market basket A to market basket B, and prefers market basket B to market basket C. Hence A is preferred to C. The assumption that leads to this conclusion is ———
- [1] completeness
 - [2] transitivity
 - [3] all goods are good
 - [4] a diminishing *MRS*
 - [5] rationality
- 5 Theodore's budget line, as depicted in figure 1, has changed from A to B. Which of the following explains the change in Theodore's budget line?
- [1] The price of food and the price of clothing increased
 - [2] The price of food increased and the price of clothing decreased
 - [3] The price of food decreased and the price of clothing increased
 - [4] The price of food and the price of clothing decreased
 - [5] None of the above

[TURN OVER]

Figure 1



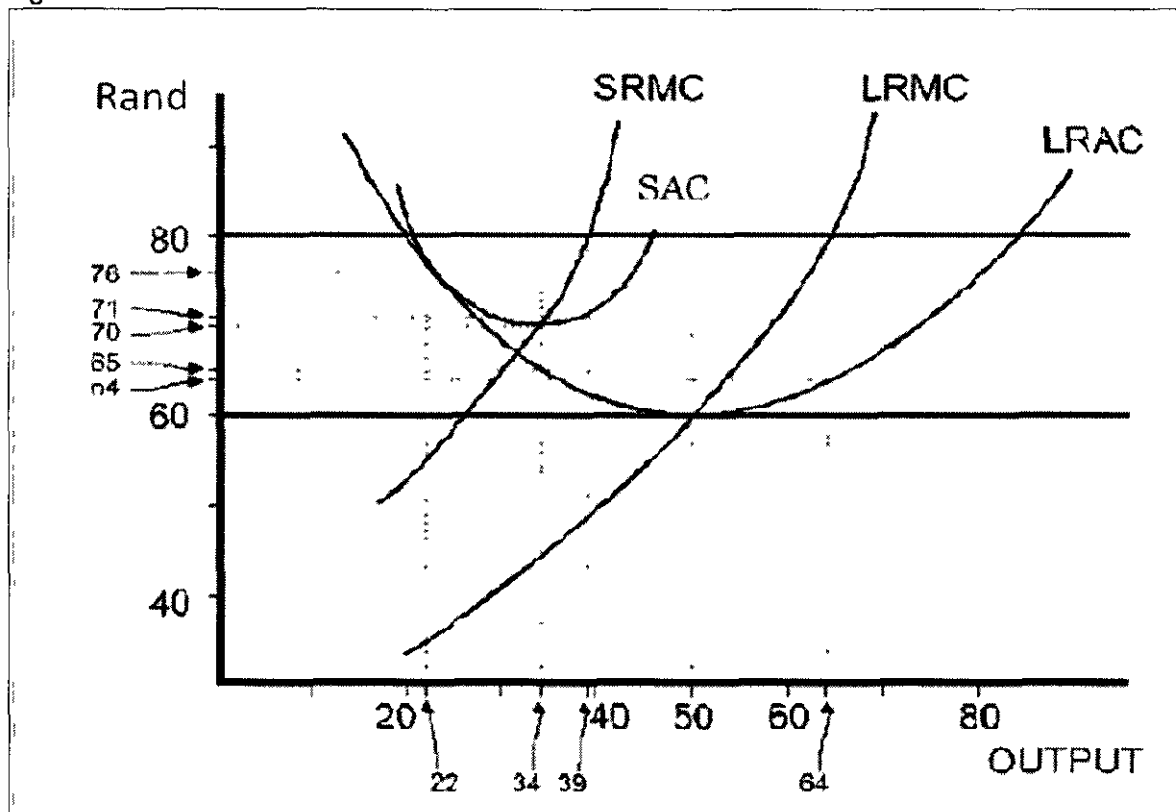
- 6 Pencils sell for 10 cents and pens for 50 cents. Suppose Jack, whose preferences satisfy all of the basic assumptions, buys five pens and one pencil each semester. With this consumption bundle, his MRS of pencils for pens is three. Which of the following is true?
- [1] Jack could increase his utility by buying more pens and fewer pencils
 - [2] Jack could increase his utility by buying more pencils and more pens
 - [3] Jack could increase his utility by buying fewer pencils and fewer pens
 - [4] Jack could increase his utility by buying more pencils and fewer pens
 - [5] Jack is at a corner solution and is maximising his utility
- 7 The price of lemonade is R0.50 and the price of popcorn R1.00. If Fred has maximised his utility by purchasing lemonade and popcorn, his marginal rate of substitution will be _____
- [1] one lemonade for each popcorn
 - [2] half a lemonade for each popcorn
 - [3] two lemonades for each popcorn
 - [4] indeterminate, unless more information on Fred's marginal utilities is provided
 - [5] None of the above
- 8 The substitution effect of a price change for product X is the change in consumption of X associated with a change in _____
- [1] the price of X, with the level of real income not considered
 - [2] the price of X, with the level of utility held constant
 - [3] the price of X, with the prices of other goods changing by the same percentage as that for product X
 - [4] income, with prices of other goods held constant
 - [5] real income, with prices of other goods held constant

- 9 Which of the following is true of income along a price-consumption curve?
- [1] Income is decreasing
 - [2] Income is increasing
 - [3] Income is constant
 - [4] The level of income depends on the level of utility
 - [5] The level of utility is constant
- 10 A Giffen good ———
- [1] is always the same as an inferior good
 - [2] is the special subset of inferior goods in which the substitution effect dominates the income effect
 - [3] must have a downward-sloping demand curve
 - [4] is the special subset of inferior goods in which the income effect dominates the substitution effect
 - [5] does not exist in the real world
- 11 When the average product is decreasing, marginal product ———
- [1] equals average product
 - [2] is increasing
 - [3] exceeds average product
 - [4] is less than average product
 - [5] is negative
- 12 With increasing returns to scale, isoquants for unit increases in output become ———
- [1] farther and farther apart
 - [2] closer and closer together
 - [3] the same distance apart
 - [4] None of the above
- 13 At the optimum combination of two inputs, ———
- [1] the slopes of the isoquant and isocost curves are equal
 - [2] costs are minimised for the production of a given output
 - [3] the marginal rate of technical substitution equals the ratio of input prices
 - [4] All of the above
 - [5] Only [1] and [3]

- 14 A firm employs 100 workers at a wage rate of R10 per hour, and 50 units of capital at a rate of R21 per hour. The marginal product of labour is three, and the marginal product of capital five. The firm

- [1] is producing its current output level at the minimum cost
- [2] could reduce the cost of producing its current output level by employing more capital and less labour
- [3] could reduce the cost of producing its current output level by employing more labour and less capital
- [4] could increase its output at no extra cost by employing more capital and less labour
- [5] Both [2] and [4] are true

Figure 2



- 15 See figure 2 above. How much profit will the firm earn if the price stays at R80.00?

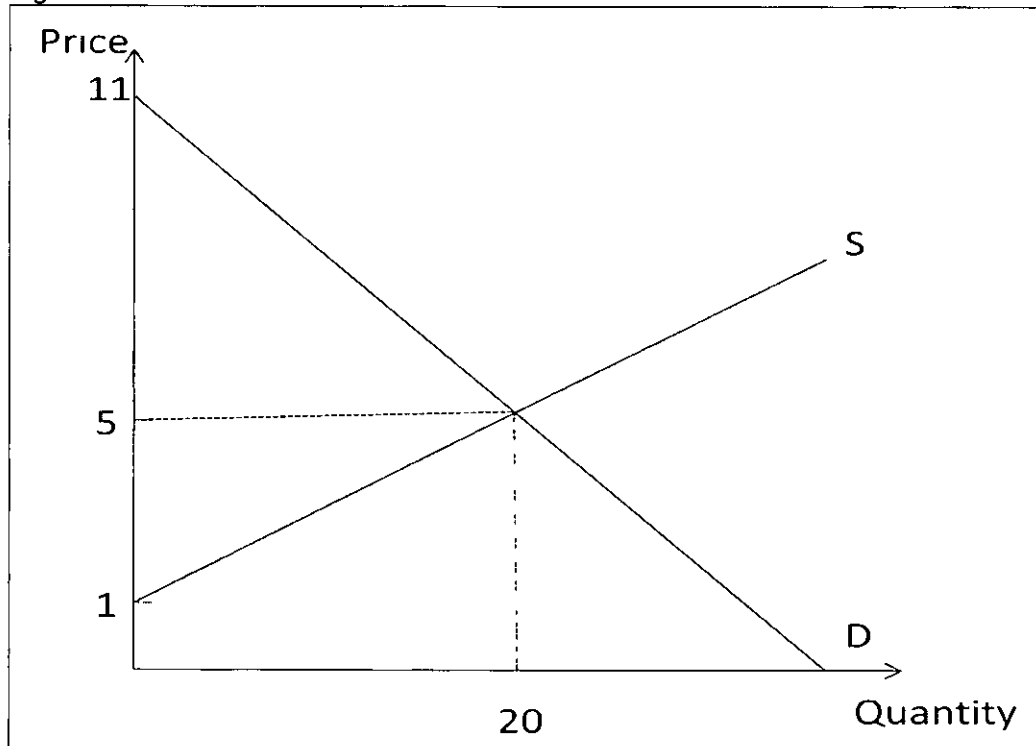
- [1] R0.00
- [2] R306.00
- [3] R312.00
- [4] R1 000.00
- [5] R1 024.00

16 A deadweight loss of consumer and or producer surplus occurs when ———

- [1] producers fail to maximise profits
- [2] mutually beneficial transactions cannot be completed
- [3] consumers do not maximise their utility
- [4] the price of inputs increases

Use figure 3 to answer questions 17 to 19

Figure 3



17 At the equilibrium price level, what is the total value of consumer surplus?

- [1] 100
- [2] 60
- [3] 50
- [4] 30
- [5] 40

18 At the equilibrium price level, what is the total value of producer surplus?

- [1] 40
- [2] 60
- [3] 70
- [4] 120
- [5] 100

[TURN OVER]

- 19 If the government sets a price floor of R7 00, what will happen to the total value of consumer surplus?
- [1] It will increase
 - [2] It will remain the same
 - [3] It will decrease
 - [4] It is difficult to tell because not enough information has been provided
 - [5] It will increase by more than R30
- 20 Steven is the owner of the only coal mining company in Malawi. The demand, revenue and cost functions from producing and selling coal are given as follows
- $$\begin{aligned} Q &= 100 - 5P \\ TR &= 20Q - 0.2Q^2 \\ TC &= 10 + 4Q \\ AR &= 20 - 0.2Q \\ MR &= 20 - 0.4Q \end{aligned}$$
- By first finding the marginal costs, what is the profit-maximising level of output?
- [1] 40
 - [2] 20
 - [3] 80
 - [4] 16
 - [5] 60
- 21 Using the information provided in question 20, calculate the profit-maximising price level
- [1] 16
 - [2] 20
 - [3] 4
 - [4] 12
 - [5] 28
- 22 Which of the following is true when the government imposes a price ceiling on a monopolist?
- [1] The MR curve becomes horizontal
 - [2] The MR curve becomes linear
 - [3] The MR curve is kinked, horizontal and then downward sloping
 - [4] The MR curve is kinked, downward sloping and then horizontal
 - [5] The MR curve is vertical

- 23 In the short run, a monopolist's profits ———
- [1] may be positive, negative or zero
 - [2] are positive because of the monopolist's market power
 - [3] are positive if the monopolist's elasticity of demand is greater than one
 - [4] are positive if the monopolist's selling price is an above average variable cost
 - [5] are always positive because the monopolist is the only buyer
- 24 Which of the following would definitely NOT be an example of price discrimination?
- [1] A theatre charges children less than adults for a movie
 - [2] A university charges higher tuition for off-campus residence
 - [3] A doctor charges for services according to the income of patients
 - [4] An electric power company charges less for electricity used during off-peak hours when production costs are lower
 - [5] All of the above
- 25 Given two different market segments, optimal third-degree price discrimination requires ———
- [1] higher prices to be charged in a market with relatively elastic demand
 - [2] lower prices to be charged in a market with relatively inelastic demand
 - [3] a uniform price to be applied in both markets
 - [4] that marginal revenue be equal to marginal costs
 - [5] marginal cost be less than marginal revenue in each market
- 26 An electricity power company uses block pricing for electricity sales. Block pricing is an example of ———
- [1] first-degree price discrimination
 - [2] second-degree price discrimination
 - [3] third-degree price discrimination
 - [4] price matching
 - [5] peak-load pricing
- 27 A local restaurant sells strawberry pie for R15 00 per slice. However, if clients order the prime rib dinner, they will receive a slice of pie for only R1 00. This is an example of ———
- [1] bundling
 - [2] a two-part tariff
 - [3] tying
 - [4] second-degree price discrimination
 - [5] None of the above

- 28 What is the difference between the Cournot and Stackelberg models?
- [1] In the Cournot model, both firms make output decisions simultaneously, whereas in the Stackelberg model, one firm sets its output levels first
 - [2] In the Stackelberg model, both firms make output decisions simultaneously, whereas in the Cournot model, one firm sets its output level first
 - [3] In the Cournot model, a firm has the opportunity to react to its rival
 - [4] Profits are zero in the Cournot model and positive in the Stackelberg model
 - [5] None of the above
- 29 An allocation in which one person can be made better off only by making someone else worse off is _____
- [1] inefficient
 - [2] efficient
 - [3] a partial equilibrium
 - [4] a general equilibrium
- 30 In an economy that produces two goods X and Y, using two inputs L and K, efficient input use occurs when _____
- [1] $MRTS_{LKX} = MRS_{LKY}$
 - [2] $MRT_{XY} = MRS_{XY}$
 - [3] $MRS_X/P_X = MRS_Y/P_Y$
 - [4] $MRTS_{LKX} = MRTS_{LKY}$

Your mark-reading sheet may get lost and you must therefore also write down your answers for section B in the space provided below.

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

3

4


5

EXAMINATION CENTRE (E G PRETORIA)
EKSAMENSENTRUM (BY PRETORIA) ...

UNIQUE PAPER NO				
UNIEKE VRAESTEL NR				
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3	3	3	3	3	3
4	4	9	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

BELANGRIK

- 1 GEBUIK SLEGS N HB POTLOOD OM HIERDIE BLAD TE VOLTTOOI
2 MERK AS VOLG 
3 KONTROLEER DAT U VOORLETTERS EN VAN REG INGEVUL IS
4 VUL U STUDENTENOMMER VAN LINKS NA REGS IN
5 KONTROLEER DAT U DIE KORREKTE STUDENTENOMMER VERSTREK HET
6 KONTROLEER DAT DIE UNIEKE NOMMER REG INGEVUL IS
7 MAAK SEKER DAT NET EEN ALTERNATIEF PER VRAAG GEMERK IS
8 MOENIE VOU NIE

6

106	א1	ב2	ג3	ד4	ה5
107	א1	ב2	ג3	ד4	ה5
108	א1	ב2	ג3	ד4	ה5
109	א1	ב2	ג3	ד4	ה5
110	א1	ב2	ג3	ד4	ה5
111	א1	ב2	ג3	ד4	ה5
112	א1	ב2	ג3	ד4	ה5
113	א1	ב2	ג3	ד4	ה5
114	א1	ב2	ג3	ד4	ה5
115	א1	ב2	ג3	ד4	ה5
116	א1	ב2	ג3	ד4	ה5
117	א1	ב2	ג3	ד4	ה5
118	א1	ב2	ג3	ד4	ה5
119	א1	ב2	ג3	ד4	ה5
120	א1	ב2	ג3	ד4	ה5
121	א1	ב2	ג3	ד4	ה5
122	א1	ב2	ג3	ד4	ה5
123	א1	ב2	ג3	ד4	ה5
124	א1	ב2	ג3	ד4	ה5
125	א1	ב2	ג3	ד4	ה5
126	א1	ב2	ג3	ד4	ה5
127	א1	ב2	ג3	ד4	ה5
128	א1	ב2	ג3	ד4	ה5
129	א1	ב2	ג3	ד4	ה5
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131	א1	ב2	ג3	ד4	ה5
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134	א1	ב2	ג3	ד4	ה5
135	א1	ב2	ג3	ד4	ה5
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137	א1	ב2	ג3	ד4	ה5
138	א1	ב2	ג3	ד4	ה5
139	א1	ב2	ג3	ד4	ה5
140	א1	ב2	ג3	ד4	ה5