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## MICROECONOMICS 2601

100 Marks

2 Hours

FI Concession Assessment 27 August 2018

STUDENT NUMBER									

IDENTITY NUMBER												

Question No	Marks		
	Examiners		
	1	2	
Section A			
Section B			
Total: A + B			

## August 2018: FI Assessment test for ECS2601

Print the assessment, complete all the questions scan it and send it back by e-mail.

The duration of the test is 2 hours. The remaining hour is to allow you adequate time to access the test and return it. All tests that have not been received back by **13:00** pm South African time on **27 August 2018** will not be marked. No exceptions will be made.

Please see below the declaration that you have to complete to certify that the completed test that you submit is your own work. You are allowed to use all your study material to complete the test but it must be your own work – you are not allowed to ask any other person to help you to complete the test. You should arrange for all your study material to be available on the date that you need to complete the test. You are not allowed to use other sources, except for the prescribed study material and your own notes and summaries to complete the assessment. You are not allowed to contact your lecturer to ask questions about the test while it is in progress. If you think that there is a problem with a question in the test, you should indicate this problem in writing on the test.

### DEPARTMENT OF ECONOMICS FI ASSESSMENT OPPORTUNITY

#### DECLARATION BY STUDENT

**Full names:** .....

**Student no:** .....

**Telephone number:** .....

**E-mail:** .....

**Date of submission:** .....

*I declare that the work I am submitting for assessment is my own work and that I received no help from any other person to complete the assessment.*

*I declare that I did not use any other sources except for the prescribed study material and my own notes to complete this assessment.*

..... **(Signature)**

ID number: .....

Signed on ..... (date) at .....(place).

**This assessment consists of 16 pages and two (2) sections: A and B**

**ALL the sections are compulsory.**

Answer **Section A** in the space provided below every question and **Section B** in the table provided below the questions.

**SECTION A (40 marks)**

**SECTION B (60 marks)**

**SECTION A**

Questions 1 to 5 of the examination question paper are **PRACTICAL** questions.  
Please answer ALL five questions. **Section A** counts 40 marks out of a total of 100.  
Please answer the questions by showing all the steps.

**QUESTION 1**

**(5 marks)**

Use the following information to answer question 1.1 and 1.2.

The demand for microeconomic books is:  $Q_d = 100 - 1P$

The supply of microeconomic books is:  $Q_s = -20 + 2P$

1.1 What is the equilibrium price of books?

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**(3 marks)**

1.2 What is the equilibrium quantity of books?

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**(2 marks)**

**QUESTION 2**

**(5 marks)**

2.1 The average monthly income of households in a South African small town increases from R8 000 to R10 000. As a result, the quantity demanded of white bread rolls increases from 1 000 to 1 200 units per day and the quantity demanded of whole grain bread rolls decreases from 1 400 to 1000 units per day.

2.1.1 Use the arc elasticity formula to calculate the income elasticity of demand for white bread rolls, and whole grain bread rolls, respectively.



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(3 marks)

3.1.3 What is the total profit earned? Show all calculations.

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(3 marks)

**QUESTION 4**

**(15 marks)**

4.1 Consider two goods, X and Y. The price of product X increases from R6 to R8 per unit. As a result, the quantity demanded of product Y decreases from 200 to 190 units.

4.1.1 Calculate the cross-price elasticity of demand, using the arc elasticity formula, given the information above.

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(3 marks)

4.1.2 Are goods X and Y substitutes or complements?

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(2 marks)

4.2 Consider a monopolist where the market demand curve for the produce is given by  $P = 600 - 4Q$ . This monopolist has marginal costs that can be expressed as  $MC = 120 + 4Q$  and total costs that can be expressed as  $TC = 120Q + 2Q^2 + 10$ .

4.2.1 Given the above information, what is this monopolist's profit maximizing price and output if it charges a single price?

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(5 marks)

4.2.2 Given the above information, calculate this single price monopolist's profit.

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(5 marks)

**QUESTION 5**

(5 marks)

5.1 Consider the market for wheat. Using the standard rule of demand and supply, explain how the equilibrium price and quantity would change in each of the following situations, *ceteris paribus* ...

5.1.1 Considering the perceived negative health effects of wheat, people decide to eat less bread (wheat is an important ingredient in bread).

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(1 mark)

5.1.2 Genetically modified wheat is grown on a large scale, resulting in an increased yield by farmers.

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**(1 mark)**

5.1.3 Consumers expect the price of wheat to increase.

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**(1 mark)**

5.1.4 There is an increase in the price of barley (barley and wheat are substitutes in production).

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**(1 mark)**

5.1.5 Floods destroyed a substantial proportion of the wheat harvest and at the same time the average income increase sharply (wheat are regarded as normal products).

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**(1 mark)**





In Section B questions 1 to 30 are **MULTIPLE CHOICE QUESTIONS**. All the questions must be answered in the table provided. Also pay attention to the following:

- (i) Only one of the alternatives per question is correct.
- (ii) For a correct answer you will receive **two marks**. No marks will be deducted for incorrect answers.
- (iii) Section B consists of 30 questions and counts 60 marks out of a grand total of 100 marks.

1. Consider the following demand and supply functions: Demand:  $Q_d = 15 + 5P$  and Supply:  $Q_s = -35 + 10P$ . What is the equilibrium price and output?
  1.  $P = R1.50$  and  $Q = 35$ .
  2.  $P = R1$  and  $Q = 30$ .
  3.  $P = R9$  and  $Q = 75$ .
  4.  $P = R10$  and  $Q = 65$ .
  
2. The price of good A goes up and as a result, the demand for good B shifts to the left. From this we can infer that ...
  1. good a is a normal good.
  2. good b is an inferior good.
  3. goods a and b are substitutes.
  4. goods a and b are complements.
  
3. If the government sets the minimum price of a product above the equilibrium price ...
  1. more firms would be attracted by the high price, causing the industry supply curve to shift to the right.
  2. the quantity demanded of the product would fall to zero since consumers would not be prepared to pay such high prices.
  3. the demand and supply curves of the product would shift until a new equilibrium price is formed at the price government sets.
  4. producers would have an incentive to produce more than they would produce under free-market circumstances.
  
4. An increase in the price of a product from R30,00 to R40,00 causes the quantity demanded to decrease from 1000 to 400 units. Using the arc elasticity of demand, the price elasticity of demand is ...
  1. 0.43.
  2. -0.65.
  3. 1.15.
  4. -3.

5. An important determinant of the amount of grains harvested next year by Ethiopian farmers is the amount of seeds planted this year. Given that foreign nations have guaranteed to donate five hundred tons of grain next year, this year the Ethiopian farmers will ...
1. Plant more seeds as the food aid establishes a minimum price for grain.
  2. Plant more seeds as the farmers' confidence is restored.
  3. Plant the same amount of seeds, as they would have without the food aid.
  4. Plant less seeds as the price of grain will be lower with the food aid
6. If the income elasticity of demand for a product is zero, an increase in people's income will cause the demand curve to ...
1. shift to the right.
  2. shift to the left.
  3. not shift at all.
  4. shift to the right or the left, depending on the equilibrium price.
7. Consider a supply curve of the form:  $Q = c + dP$ . If  $d$  equals zero then supply is ...
1. completely inelastic.
  2. inelastic, but not completely inelastic.
  3. elastic, but not infinitely elastic.
  4. infinitely elastic
8. 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. is the special subset of inferior goods in which the income effect dominates the substitution effect.
  4. leads to a downward sloping demand curve
9. If a consumer is always indifferent between an additional one grapefruit or an additional two oranges, then when oranges are on the horizontal axis the indifference curves ...
1. will be straight lines with a slope of  $-1/2$ .
  2. will be straight lines with a slope of  $-1$ .
  3. will be straight lines with a slope of  $+1/2$ .
  4. none of the above.
10. If the total utility from consuming the fifth and sixth units of a good is 66 and 73 respectively, then the marginal utility of the fourth unit is ...
1. 85
  2. -7.
  3. 7.
  4. Not calculable from the information given.

11. If Michael consumes more and more biltong and each additional packet of biltong provides less satisfaction than the previous one, we are seeing the working of the law of ...
1. demand.
  2. decreasing economies of scale.
  3. increasing opportunity cost.
  4. diminishing marginal utility.
12. Which one of the following statements is correct?
1. When a marginal value is less than the average value, the average value may still be increasing.
  2. When a marginal value is positive, the corresponding total value decreases.
  3. When the total value decreases, the corresponding marginal value is likely to be positive.
  4. When the average value reaches a maximum, the marginal value is equal to it.
13. Which one of the following statements is correct?
1. When marginal product is negative, total product is increasing at a decreasing rate.
  2. When average product is at a maximum, marginal product equals average product and total product is rising.
  3. When marginal product is at a maximum, average product equals marginal product and total product is rising.
  4. When average product is at a maximum, total product is increasing at an increasing rate.
14. Total economic well-being to society is the ...
1. consumer surplus less the producer surplus.
  2. sum of consumer surplus plus producer surplus.
  3. ratio of consumer surplus to producer surplus.
  4. total gains to consumers, producers and government.
15. If a consumer must spend her entire income on some combination of two commodities and chooses to spend it all on just one of the commodities then ...
1. the other commodity is not economically sustainable.
  2. the other commodity must have zero marginal utility.
  3. the other commodity generates less utility for every rand spent on the good.
  4. the two commodities must be perfect substitutes.
16. Suppose a firm produces ten units of output and the costs involved are 10 per unit variable cost and R1 per unit fixed cost. In this case the total cost is ...
1. R11.
  2. R100.
  3. R450.
  4. R110.

17. At a firm's current output level of 300 units per week, it has 10 employees at a weekly wage of R700 each. Raw materials, which are ordered and delivered daily, cost R2 000 per week. The weekly cost of the firm's capital is R2 250. Which one of the following statements is TRUE?
1. Total variable cost is R7 000; total fixed cost is R4 250; total cost is R11 250.
  2. Total variable cost is R9 000; total fixed cost is R2 250; total cost is R11 250.
  3. Total variable cost is R2 250; total fixed cost is R9 000; total cost is R11 250.
  4. Total variable cost is R4 250; total fixed cost is R700; total cost is R4 950.
18. If the total cost is R500 and the average fixed cost is R10 when 50 units of output are produced, then the average variable cost at that level of output is ...
1. R20.
  2. R30.
  3. R400.
  4. R600.
19. If a perfectly competitive firm increases production from 15 to 16 units and the market price is R10 per unit, the total revenue for 16 units would be ...
1. R10
  2. R150.
  3. R15.
  4. R160.
20. If the market price of a product is R25 in a perfectly competitive market, the marginal revenue earned by the firm from selling the fifth unit is ...
1. R5.
  2. R25.
  3. R135.
  4. impossible to determine.
21. If a competitive firm's marginal costs always increases with output, then at the profit maximizing output level producer surplus is ...
1. zero because marginal costs equal marginal revenue.
  2. zero because price equals marginal costs.
  3. positive because price exceeds average variable costs.
  4. positive because price exceeds average total costs.
22. At the current level of output, long run marginal cost is R500 and long run average cost is R750. This implies that ...
1. there are neither economies nor diseconomies of scale.
  2. there are economies of scale.
  3. there are diseconomies of scale.
  4. the cost-output elasticity is greater than one.

23. Which of the following is NOT true for a monopoly?
1. The profit maximizing output is the one at which marginal revenue and marginal cost are equal.
  2. Average revenue equals price.
  3. The monopolist's demand curve is the same as the market demand curve.
  4. At the profit maximizing output, price equals marginal cost.
24. If the price of a good shown on the vertical axis of a budget graph is cut in half and the price of the good on the horizontal axis is cut by 25 %, then the budget constraint ...
1. shifts left and becomes steeper.
  2. shifts right and becomes steeper.
  3. shifts left and becomes flatter.
  4. shifts right and becomes flatter
25. Suppose that the first four units of a variable input generate total outputs of 100, 250, 350 and 400 respectively. The marginal product of the third unit of input is ...
1. 50
  2. 100
  3. 150
  4. 350
26. A maximin strategy ...
1. maximises the minimum gain that can be earned.
  2. maximises the gain of one player, but minimises the gain of the opponent.
  3. minimises the maximum gain that can be earned.
  4. involves a random choice between two strategies, one which maximises potential gain and one which minimises potential loss.
27. In a Nash equilibrium ...
1. each player has a dominant strategy.
  2. no players have a dominant strategy.
  3. at least one player has a dominant strategy.
  4. players may or may not have dominant strategies.
28. In a prisoner's dilemma with prisoners A and B, if they both confess, A gets 5 years and B gets 8 years. If both remain silent, A gets 2 years and B goes free. If one confesses and the other does not, the one who confesses gets 1 year and the other gets 15 years. Which statement is true of this case?
1. There is a dominant strategy for both A and B.
  2. There is no dominant strategy for either A and B.
  3. There is a dominant strategy for A but not for B.
  4. There is a dominant strategy for B but not for A.

29. With reference to question 28, which one of the following statements is TRUE?
1. A Nash equilibrium exists as the question stands.
  2. A Nash equilibrium does not exist as the questions stands, but if the penalties for both remaining silent were doubled, a Nash equilibrium would exist.
  3. If the penalties were changed so that if both parties confessed, they would go free, then it would be the dominant strategy for both to confess.
  4. Both statement 2 and 3 are correct but statement 1 is incorrect.
30. In an oligopsony market ...
1. there are many buyers and sellers.
  2. there are many buyers and a single seller.
  3. there is a single buyer and many sellers.
  4. there are a few buyers and many sellers.

**You must 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.