



COLLEGE	College of Business & Economics
SCHOOL	Economics
CAMPUS	APK
MODULE NAME	Economics 100
MODULE CODE	ECO100
SEMESTER	First
ASSESSMENT OPPORTUNITY	Final Summative Assessment
MONTH & YEAR	May 2019

ASSESSMENT DATE	29 May 2019	SESSION	1
ASSESSOR(S)	Prof G Van Zyl Dr P Baur Mr F Kirsten		
MODERATOR(S)	Dr K Viljoen		
DURATION	2 hours	TOTAL MARKS	100

INFORMATION/INSTRUCTIONS

This is a fill-in paper.
The paper has 10 numbered pages.
There are four questions with sub-sections.
A noiseless calculator is allowed.

MARK ALLOCATION

Question 1	Question 2	Question 3	Question 4
[30]	[25]	[20]	[25]
1.1 [4]	2.1 [4]	3.1 [4]	4.1 [4]
1.2 [4]	2.2 [2]	3.2 [4]	4.2 [7]
1.3 [8]	2.3 [2]	3.3 [4]	4.3 [7]
1.4 [5]	2.4 [3]	3.4 [2]	4.4 [7]
1.5 [4]	2.5 [3]	3.5 [3]	
1.6 [5]	2.6 [4]	3.6 [3]	
	2.7 [4]		
	2.8 [3]		

TOTAL	Mark awarded
[100]	

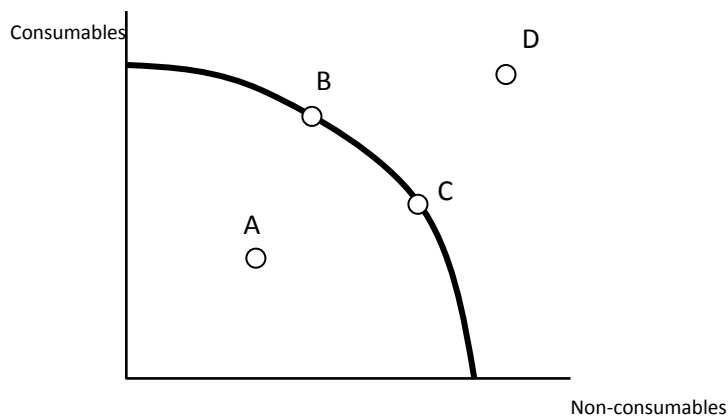
Question 1: Economic concepts & understanding changes in the economy

[30]

- 1.1 Indicate whether you agree or disagree with the following descriptions. (Use an **X** to indicate your preferences). (4)

Description	Agree	Disagree
The profit motive drives individuals in a traditional economic system.		
The purchase of production equipment on credit fits the profile of a financial asset.		
Scarcity of labour, capital, natural resources and entrepreneurship force economic subjects to make choices.		
The primary function of government in a mixed economy is to ensure that sufficient competition exist so that firms and individuals will make socially desirable decisions.		

- 1.2 Assume the following production possibilities curve. (4)



Link the movements (BA, AB, BC, CB, BD and DB) to the following scenarios

Scenario	Movement
Increase in the price of non-consumable goods.	
Recent patterns of the expanded tertiary education shows an increase in skills development.	
Productivity of workers decrease due to labour unrest.	
Fresh food supply decreases due to the impact of the recent South African drought.	

- 1.3 Assume the following CPI index. (8)

Year	CPI index
20X1	100
20X2	105.8
20X3	110.5

- Calculate the inflation and economic rate for 20X2 and 20X3.

Year	CPI	Inflation rate	Nominal GDP (Rm)	Economic Growth rates
20X1	100	-	R2 349 595	-
20X2	104.6		R2 584 893	
20X3	109.5		R2 292 939	

- Calculate the following. (Show all your calculations)

Description	Answer
You bought some financial stock for R34 859 in the beginning of 20X1. What is the real value of the financial stock at the end of 20X2? (1)	
Assume that the CPI index is forecasted to be 111 at the end of 20X4. You started in the beginning of 20X1 with a growth-induced financial asset worth R20 000. This financial instrument guarantees the protection of the purchasing power of the initial investment to be paid back at the end of 20X4. What is the amount that you can expect to be paid out at the end of 20X4? (2)	
Assume that your nominal salary at the beginning of 20X1 was R643 324 per annum. What was your real salary at the end of 20X2? (1)	

1.4 Link the following descriptions to their respective macroeconomic objectives and indicate whether the objective requires an expansionary or restrictive fiscal policy action. (5)

Number	Descriptions	Macroeconomic objective	Expansionary or restrictive
1	Increasing the rate of growth in the real GDP from 1.5% to 2% per annum.		
2	Spending more money on the expansion of the manufacturing sector.		
3	If the current inflation is 7%. SARB decides to keep the rate of growth in inflation within the target range.		
4	Reducing the official rate of unemployment from 27% to 23% in the medium term.		
5	Increasing educational development of the missing middle to reduce educational inequality in South Africa.		

1.5 Assume the following labour market information of a particular country.

(4)

Total population: 13m people
People of working age: 8m people
Active labour force: 6m people
Employed: 2m people

Determine the following:

Task	Answers
Economically inactive population. (only indicate numerical value i.e. 20)	
Unemployed population. (only indicate numerical value i.e. 20)	
Unemployment rate. (only indicate numerical value i.e. 20)	
Labour force participation rate. (only indicate numerical value i.e. 20)	

1.6 With which of the following statements do you agree or disagree with? (Indicate your answer with an X). (5)

Statements	Agree	Disagree
The richest person in South Africa cannot experience a scarcity problem.		
An upgrade in the skills level of South African workers can address the scarcity problem.		
Decision making in an economy does not always involve opportunity costs.		
Sunk costs can be recovered.		
The marginal concept might refer to the additional satisfaction that Peter will experience if he consumes one more chocolate.		

Question 2: Demand**[25]****2.1** Assume a demand curve $P = 120 - 0.4Q$. Indicate/derive the following.**(4)**

Task	Answer
The price-intercept if demand should decrease by 20%.	
The marginal revenue output (use the original demand equation).	
The price if total revenue is to be maximised (use the original demand equation).	
Maximum total revenue (use the original demand equation).	

2.2 Indicate whether you agree or disagree with the following statements. (Use an **X**)**(2)**

Descriptions	Agree	Disagree
A decrease in demand will have no impact on the slope of the demand curve.		
An increase in demand, ceteris paribus will decrease consumer surplus.		

2.3 Assume that the price of a pair of Jordan trousers decrease. The result is a 10% decrease in the sales of a pair of Crew trousers, but an increase of 10% in the demand for Jordan shirts.

(2)

Descriptions	Answer
What is the relationship between a pair of Jordan trousers and a pair of Crew trousers?	
What is the relationship between a pair of Jordan trousers and Jordan shirts?	

2.4 Assume the following descriptions and indicate the price elasticity or income elasticity or cross-price elasticity characteristics thereof.

(3)

- The income of a consumer decreases by 15% resulting in a 10% decrease in the demand for a particular product.

Indicate whether the product is a luxury product, a necessity or an inferior product

- The price of product C decreases by 10% resulting in an increase in the demand for product D of 12%.

Indicate the relationship between the products and the strength of this relationship e.g. weak substitute

- The price of a product decreases by 12% and the resulting increase in the quantity demanded of the product is 10%.

Indicate whether the demand curve is elastic or inelastic

2.5 Assume a demand curve $P = 120 - 0.4Q$. Indicate what will happen to total revenue for the following price changes. (Apply the relationship between elasticity of demand and total revenue) (3)

Price change	Impact on total revenue (increase or decrease)
The price increases from R62 to R65.	
The price decreases from R58 to R55.	
The price increases from R55 to R58.	

2.6 Answer the following questions. (4)

Question	Answer
Assume that a 10% increase in the price of the product has no impact on demand for the product. Would you regard the product as relatively elastic, relative inelastic, perfect elastic or perfect inelastic?	
Assume that a 5% decrease in price resulted in a 4% increase in demand. Would you regard the product as relatively elastic, relative inelastic, perfect elastic or perfect inelastic?	
Assume a price sensitive range. Will a 10% increase in price result in a more or less than 10% decrease in quantity demanded?	
Assume a price insensitive range on a demand curve. Will the 10% change in price be greater or smaller than the 10% change in quantity demanded	

2.7 The current income of consumers is R40 000 per household and the quantity demanded of the product is 400 units. An increase in the income of consumers to R60 000 per household resulted in an increase in the demand for the product of 100 units. Answer the following questions. (4)

Question	Answer
Calculate the income-elasticity coefficient. (Work with % changes).	
How would consumers classify the product?	
Assume a 20% increase in the income of the consumers. Would the increase in the demand for the product be greater or less than 20%?	
Assume a 15% decrease in the income of the consumers. Will the decrease in demand be greater or less than 15%?	

2.8 Assume the following cross-price elasticity coefficients for products A, B, C and D. (3)

$E_{\text{CROSS A\&B}}$	-0.6
$E_{\text{CROSS C\&D}}$	+0.65
$E_{\text{CROSS B\&C}}$	+2.50

Question	Answer
What is the strength and relationship between products A and B?	
What is the strength and relationship between products C and D?	
What is the strength and relationship between products B and C?	

Question 3: Supply & cost

[20]

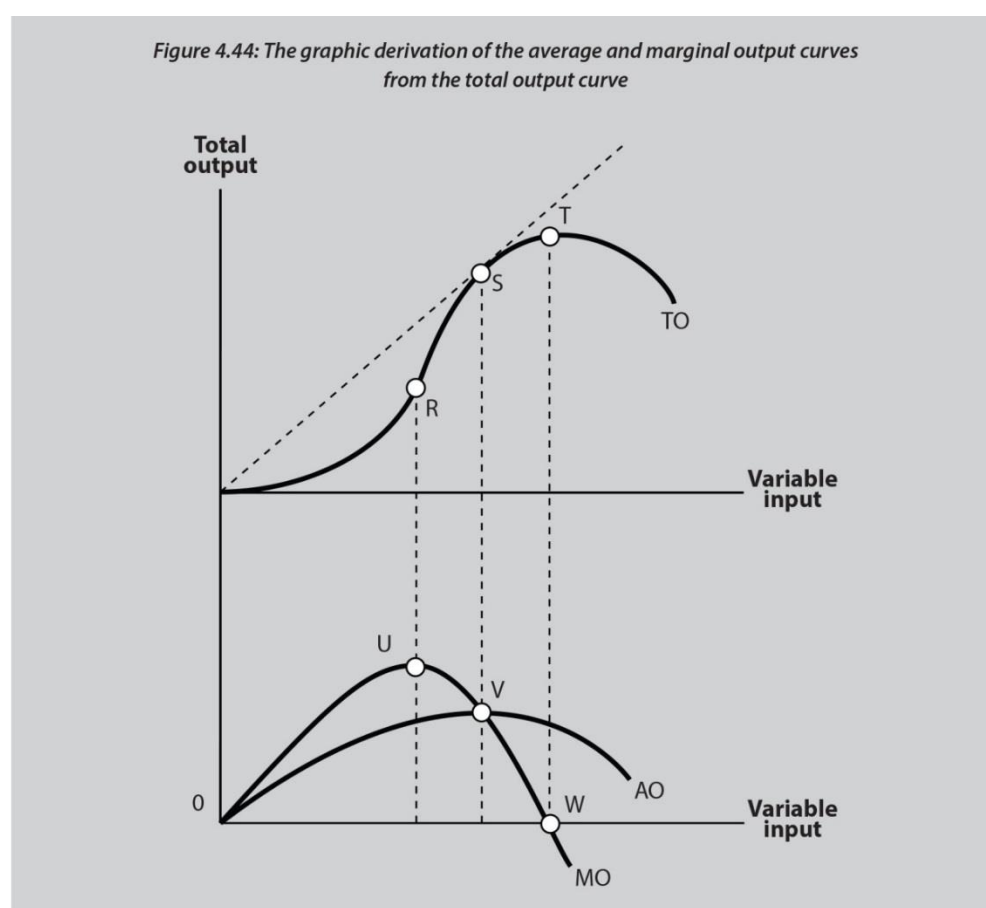
3.1 Answer the following questions. (Show all your calculations).

(4)

Question	Answer
Assume a demand curve $P = 120 - 0.3Q$ and a supply curve $Q = -160 + 2P$. Calculate the market-clearing price.	
Assume that both the demand and supply decreases simultaneously in the market. What will happen to the equilibrium price?	
Assume that demand increases and supply decreases simultaneously in the market. What will happen to equilibrium price?	
Will a minimum price be set lower or higher than the market-clearing price?	

3.2 Assume the following figure and answer the questions below.

(4)



Question	Answer
What is the value of a tangent at point T?	
What does point R represent?	
What will happen to the slope of a tangent to the TO-curve beyond point T?	
Why is the MO and AO values equal at point V?	

3.3 Answer the following questions.

(4)

Question	Answer
What does the decreasing part of the LAC-curve indicates?	
Assume that average output decreases. What will happen to average cost?	
Assume that a 10% increase in the input base resulted in an 8% increase in output. What kind of returns to scale are we dealing with?	
Assume that a 12% increase in the input base resulted in a 12% increase in output. What kind of returns to scale are we dealing with?	

3.4 Answer the following.

(2)

	Question	Answer
1	Assume that the credit interest rate is 10% per annum, the rate of depreciation is 6% per annum, the purchasing price of the real capital stock is R200 000 and the leasing-rate is R40 000 per annum. Should the firm buy or rent the real capital stock?	
2	You are applying the net present value (NPV) approach to determine the viability of investing in capital stock. Assume that the discount rate is 10% and the net present value is -R1. Will you invest in the capital stock?	

3.5 Assume that the labour units increased by 10% and the real capital stock decreased by 8% (due to a 5% decrease in the marginal efficiency of capital and a 6% increase in the marginal efficiency of labour). Determine the following. (Show all your calculations).

(3)

	Question	Answer
1	The % capital/labour ratio change. (%)	
2	The marginal efficiency ratio change. (%)	
3	The elasticity of substitution.	

3.6 Assume the following hourly variable input schedule and information.

Variable input units	Output
2	20
4	56

The price of the variable input is R72 per hour

Calculate the following:

(3)

	Task	Answer
1	Marginal output when the output is 20.	
2	Average variable cost when the output is 56.	
3	Marginal cost when the output is 56.	

Question 4: Market structures**[25]**

4.1 Assume that Jane is currently earning a salary of R600 000 per annum. She has a R400 000 fixed deposit at ABSA on which she earns an interest of 6.5% per annum. To start her own business, she needs to withdraw the fixed deposit and use it as start-up capital. The projected present values of the operating annual costs are R120 000 for material and R200 000 for operating costs. Jane is expecting a present value annual sales revenue of R950 000. Calculate/determine the following. **(4)**

Question	Answer
Opportunity costs.	
Economic costs.	
Economic profit/loss.	
Should Jane start with her own business?	

4.2 Assume a perfect competitive business environment. Answer the following questions.

(7)

	Question/Task	Answer
1	Assume that the market price is equal to minimum average total cost. Indicate the equilibrium profit/loss position of the competitive firm in the short run.	
2	Zepo produces a product in a perfectly competitive market. The current market price is R50 and the firm's total cost is $C = 120 + 2Q + Q^2$. Assume that the output is set on the principle that marginal revenue is equal to marginal cost. Calculate the optimal production level for the firm.	
3	Assume that the market price is equal to minimum average variable cost. What is the total economic loss for the competitive firm in the short-run?	
4	Indicate the sign of the slope of the long-run supply curve when decreasing returns to scale is assumed.	
5	Assume the derivation of a long-run supply curve when increasing returns to scale is assumed. Are we dealing with an increasing cost industry or a decreasing cost industry?	
6	Assume increasing returns to scale. Is the % increase in market demand greater or smaller than the % increase in market supply?	

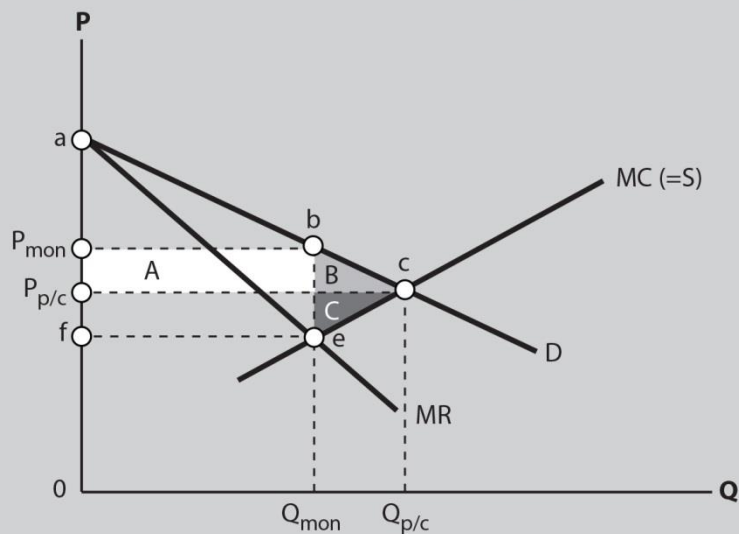
4.3 Assume monopoly formation. Answer the following questions.

(7)

	Question	Answer
1	The demand equation for the product is $P = 1250 - 0.5Q$. The firm's total cost function is $C = 500\,000 + 200Q + 0.025Q^2$. What is the monopoly price?	
2	Which one of a perfect competitive industry or a monopolist produces the bigger output level?	
3	Assume price discrimination. Would the monopolist charge a higher or lower price for the relative inelastic market segment?	

Assume the following figure and answer the questions that follow.

Figure 4.80 Efficiency of a monopolist



	Question	Answer
4	What is the total loss in consumer surplus? (indicate the area(s))	
5	What is the total gain in producer surplus? (indicate the area(s))	
6	What is the total loss to society? (indicate the area(s))	

4.4 Assume monopolistic competitive and oligopolistic business environments.

Answer the following questions.

(7)

	Questions	Answer
1	Briefly indicate the elasticity characteristic of the individual demand curves of firms in a monopolistic competitive business environment given the existence of close substitutes.	
2	Indicate the product characteristic of products in a monopolistic competitive market.	
3	Assume that a dominant firm sets price at R10 per unit. Will the other firms in the market set a price lower than R10?	
4	Assume an increase in the marginal cost of the price leader. Could this situation result in a higher or lower price?	
5	<p>CRIPO is a dominant price leader operating in an oligopolistic market structure. The following information applies:</p> <p>$6P = 30 - 3Q_M$ (total market demand) $Q_S = 2P$ (combined supply of the smaller firms) $MC_{ZIPO} = 0.5Q_{ZIPO}$</p> <p>Calculate the price set by CRIPO and the combined output of the other firms.</p>	

....END....