

Fiji National University

COLLEGE OF AGRICULTURE, FISHERIES & FORESTRY

AEC 503

Principles of Agricultural Economics

Trimester 1 Examination -2014

TIME ALLOWED: 3 hours plus 10 minutes reading time

INSTRUCTIONS

1. This paper consists of three parts and 7 pages.
 2. In the first part, there are 4 questions and you have to answer **ALL** questions.
 3. In the second part, there are 2 questions and you have to answer **ALL** questions.
 4. In the third part, there are 2 questions and you have to answer **ONLY ONE** question.
 5. Printed or written materials are **NOT** allowed in the examination hall.
 6. Pencil, ruler and calculator are needed.
 7. Make sure your identification number in all pages you use.
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Summary of Questions

Part	Guidelines	Total Marks
I	Question 1 – Definitions (10 marks) Question 2 - Short answers (10 marks) Question 3 – TRUE or FALSE (10 marks) Question 4 – Descriptive answers (15 marks)	45
II	Provide detail answers	40

III	Choose one question and provide detail answers	15
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PART I

1. Define the following economic terms.
 - 1.1 Opportunity Cost:
 - 1.2 Scarcity
 - 1.3 Marginal rate of substitution
 - 1.4 Positive economics and normative economics
 - 1.5 Dead weight loss
 - 1.6 Gross Domestic Product
 - 1.7 Economic system
 - 1.8 Diminishing marginal returns
 - 1.9 Law of Demand
 - 1.10 Indifference Curve

(10 marks)

2. Give short answers.
 - 2.1 What determines the resource allocation of a mixed economy?
 - 2.2 What is the importance of per capita GDP when comparing countries?
 - 2.3 Which crop sector employs the highest labour force in Fiji?
 - 2.4 What is the opportunity cost of land?
 - 2.5 Name two implicit costs involved in crop production.
 - 2.6 Name three countries having less than 12 percent of agricultural GDP.
 - 2.7 What is the national poverty line of Fiji according to latest statistics?
 - 2.8 What country has the lowest poverty level in the Pacific region?
 - 2.9 What are the characteristics of a perfectly competitive market?
 - 2.10 Give three food commodities of your choice ranking from less inelastic to more inelastic.

(10 marks)

3. Are these statements TRUE or FALSE?

3.1	Goods with close substitute tend to have more elastic demand.	
3.2	Indifference curves can cross.	
3.3	Rice is an inferior good in Japan, Indonesia and Bangladesh.	
3.4	Some opportunity costs are implicit.	
3.5	In a perfectly competitive market, individual supplier is a price taker.	
3.6	Marginal cost increases as the marginal product increases.	
3.7	Production Possibilities frontier get shifted inward due to technological advancements.	
3.8	The price of complement good drops implies a rightward shift of the demand curve.	
3.9	Marginal cost curve crosses the average total cost at the minimum of average total cost.	
3.10	Supply is usually more elastic in long run than in the short run.	

(10 marks)

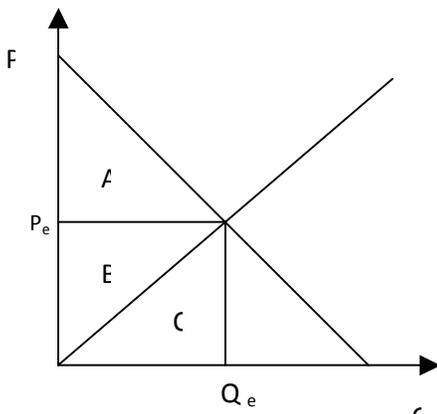
4. Answer the following questions.

4.1 How do you graphically explain the following happenings that would affect the Fiji crop sector in terms of demand and supply?

- 4.1.1 Dalo beetle infestation in 2013
- 4.1.2 Increase in CIF price of wheat on rice
- 4.1.3 Income increase in poor segment of population in developing countries
- 4.1.4 Introduction of new hybrid maize varieties

4.2 Illustrate graphically “Budget line shifts due to decrease in price of commodity A”

4.3 What are the areas designated in the diagram below.



A =

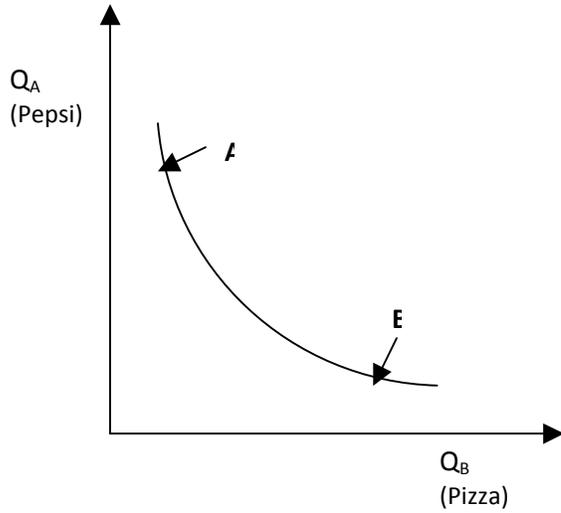
B =

C =

B + C =

A + B =

4.5 Fill in the blanks



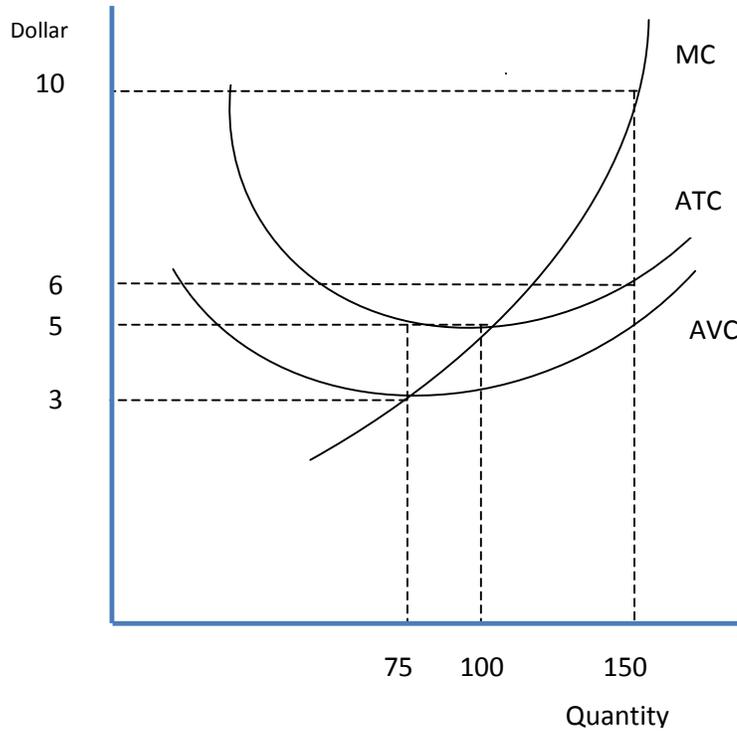
At point A marginal utility of Pepsi is than at point B

.At point A marginal utility of Pizza is than at point B

(15 marks)

PART II

1. Following questions are based on firm's behavior.
 - 1.1 What are the factors of production?
 - 1.2 What factors are fixed in the short run of an agriculture farm?
 - 1.3 Define marginal product (MP)
 - 1.4 Graphically show the diminishing MP region of a typical production function.
 - 1.5 Use the following graph to answer the following questions.



- 1.5.1 Find the shutdown point of the firm in the short run. What is the quantity produced, average total cost, total cost and profit (loss) at this point?
- 1.5.2 Find the exit point of the firm in the short run. What is the quantity produced, average total cost, average variable cost, total cost, total variable cost and profit (loss) at this point?
- 1.5.3 If $MR = 10$, then what is the quantity produced, average total cost, average variable cost, total cost, total variable cost and profit (loss) at this point?

(20 marks)

2. Below given the demand and supply functions of bean.

$$Q_d = 30 + 0.2 I + 0.3P_{\text{goodA}} - 0.4P_b \quad \rightarrow \quad \text{market demand}$$

$$Q_s = -2 + 1.5 P_b \quad \rightarrow \quad \text{market supply}$$

where Q = quantity demand/ supply, I = Income, P = Price b = bean, $goodA$ = other good

- 2.1 What are the determinants of quantity demanded of bean in the market?
- 2.2 Draw the market demand curve, when $I = 50$ \$ and $P_{goodA} = 5$ \$.
- 2.3 Calculate the price elasticity of bean at \$20 when when $I = 50$ \$ and $P_{goodA} = 5$ \$.
- 2.4 Suppose bean has a perfectly competitive market, what is the equilibrium price and quantity in this market when the $I = 50$ \$ and $P_{goodA} = 5$ \$.
- 2.5 Suppose income increases of population by 20%.
 - 2.5.1 What is the new market demand curve?
 - 2.5.2 What is the new equilibrium price and quantity?
- 2.6 Suppose the price of other good increases from 5\$ to 6 \$.
 - 2.6.1 What is the new market demand curve?
 - 2.6.2 Is the other good a complement or a substitute? Give an example
 - 2.6.3 What is the new equilibrium price and quantity?

(20 marks)

PART III

Answer only **ONE** question.

1. Elasticity is an important parameter that explains commodity behavior in the market.
 - 1.1 Define price elasticity of demand, income elasticity of demand and cross price elasticity of demand
 - 1.2 What determines whether the demand for a good is elastic or inelastic?
 - 1.3 “According to IRRI Global Rice Model (IGRM), world rice demand is projected to increase by 8%, yet world per capita consumption is projected to decrease by 3%”. Discuss.
 - 1.4 IGRM price elasticity estimates show that in all countries rice demand is inelastic. Rice is already an inferior good in India. Indian per capita income is expected to rise in the coming years. Graphically show what will happen to the retail price of rice in next few years if no supply changes will occur.

(15 marks)

2. Control on prices or price regulations and taxes are common government interventions to the market.
 - 2.1 Define price ceiling and price floor
 - 2.2 What is the main tax imposed by the Fiji government on consumers?
 - 2.3 What is the objective of government interventions in controlling prices and taxes?
 - 2.4 What are the market outcomes of these interventions? What welfare changes are brought about by these interventions? Why economist would not support these government interventions? Answer this question by taking one of the government interventions on the market.

(15 marks)