

**Uva Wellassa University**  
**Faculty of Animal Science & Export Agriculture**  
**BSc in Export Agriculture**  
**Bachelor of Animal Science**  
**BSc in Tea Technology and Value Addition**  
**BSc in Palm and Latex Technology and Value Addition**



**End Semester Examination – January/ February 2016**  
**Year I Semester II**

**Economic Thinking in Agriculture (EAG 121-3/0)**  
**Principles of Agricultural Economics (EAG 131-3)**

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**Instructions**

Answer **All** questions

No. of questions : Two (02)  
No. of pages : Eleven (11)  
Time : One hour (1 hr)  
Total marks allocated : 20/100

Index No:

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**Part II – Structured**

- 1.
- a. Distinguish between following terms
- i. GDP and GNP

(5 marks)

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- ii. Business Fixed Investment and Residential Investment

(5 marks)

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iii. Short Run Aggregate Supply and Long Run Aggregate Supply

(5 marks)

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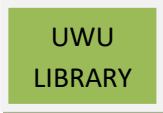
b. Consider an economy that produces and consumes corn and candy.  
Following table gives the data for two different years

	Year 2000	Year 2005	Year 2006
Price of a corn	\$ 0.50	\$ 1.00	\$ 1.50
Price of a candy	\$ 1.00	\$ 2.00	\$ 3.00
Number of cornproduced	10	15	20
Number of candyproduced	10	12	15

i. Calculate Nominal GDP for year 2000.

(10 marks)

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ii. Considering the year 2000 as the base year, Calculate Real GDP for year 2005 and 2006

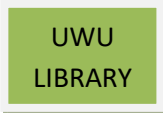
(10 marks)

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iii. Calculate the GDP deflator for year 2005 & 2006

(10 marks)

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c.

i. Mathematically prove  $S = I$  in two sector economy.

(5 marks)

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ii. What is meant by “autonomous spending”

(5 marks)

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d. “Investment & interest rate have a negative relationship”. Prove this statement using illustrations.

(10 marks)

e.

i. What is meant by “Labor force”?

(5 marks)

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ii. Differentiate frictional unemployment from structural unemployment

(10 marks)

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iii. Explain the relationship between Wage push inflation rate and unemployment rate using Philip’s curve

(10 marks)

iv. Differentiate flexible exchange rate from fixed exchange rate. (10 marks)

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2.

a. Define the following terms;

i. Total Physical Product (TPP) (4 Marks)

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ii. Average Physical Product (APP) (4 Marks)

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iii. Marginal Physical Product (MPP) (4 Marks)

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iv. Elasticity of Production ( $E_p$ ) (4 Marks)

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b. Graphically show;

- i. Total Physical Product (TPP), Average Physical Product (APP), and Marginal Physical Product (MPP) curves if the variable input used is fertilizer in Kilograms. Indicate elasticity values in all stages of production while showing the inflection point, technical maximum and technical optimum. (12 Marks)

- ii. How you find out the profit maximizing fertilizer level if the price of fertilizer, the price of output, and the total costs are given. (8 Marks)



- c. The given below is a production function where  $Y$  is the rice output in kilograms and  $X$  is the amount of fertilizer (kilograms) used;

$$Y = X^2 - \frac{1}{30}X^3$$

Find the following;

- i. APP function (3 Marks)

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- ii. Input level which corresponds to maximum APP (3 Marks)

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- iii. MPP function (3 Marks)

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- iv. Input level which corresponds to maximum MPP (3 Marks)

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- v. Input level which corresponds to maximum Output (3 Marks)

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- vi. Elasticity of Production when  $X = 10$  (3 Marks)

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d.

i. What is meant by an isoquant? (3 Marks)

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ii. How do you define the Marginal Rate of Technical Substitute? Use a suitable illustration. (10 Marks)

iii. The following combinations of  $x_1$  and  $x_2$  all produce 100 bushels of corn. Calculate the  $MRTS_{x_1x_2}$  and the  $MRTS_{x_2x_1}$  at each midpoint (10 Marks)

Combination	Units of $x_1$	Units of $x_2$	$MRTS_{x_1x_2}$	$MRTS_{x_2x_1}$
A	10	1		
B	5	2		
C	3	3		
D	2	4		
E	1.5	5		

iv. For the production function  $y = 3x_1 + 2x_2$ , find;

The MPP of  $x_1$  (3 Marks)

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The MPP of  $x_2$  (3 Marks)

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The MRTS of  $x_1$  for  $x_2$  (3 Marks)

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e. State whether the following statements are **TRUE** or **FALSE** by putting a **tick** (✓) in the relevant cage (10 Marks)

No.	Statement	TRUE	FALSE
01	Economic models and theories are accurate statements of reality		
02	An increase in market supply and in market demand always results in an increase in equilibrium price and quantity		
3	Supply elasticity measures the percentage change in quantity supplied resulting from a given percentage change in price		
04	Consumer's utility maximization is satisfied by the condition that $MU_x = MU_y = MU_z$		
05	Total Costs are zero when the firm does not produce any output		
06	The Long Run Cost id formed from the relevant segments of the firm's various Short Run Average Cost curves		
07	A monopoly leads to higher commodity price and less output than perfect competition		
08	Restricted entry is a characteristic of monopolistic competition		
09	Fisheries is an open access resource		
10	Environment pollution is a problem of property rights		