



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF BUSINESS & ECONOMICS**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS**  
**ADMINISTRATION WITH IT.**  
**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2016/2017 ACADEMIC YEAR**  
**MAIN CAMPUS**

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**COURSE CODE: AEC 201**

**COURSE TITLE: INTERMEDIATE MICROECONOMICS (EVENING MAIN)**

**EXAM VENUE: STREAM: (BBA)**

**DATE: December 2016 EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer questions ONE and ANY other TWO questions**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

**QUESTION ONE (COMPULSORY)**

(a) Define the following terms (5mks)

- (i) A rational economic agent with regard to consumer demand theory
- (ii) The price consumption curve
- (iii) Marginal cost
- (iv) Marginal rate of technical substitution
- (v) Disutility

b) i) Marginal utility is a measure of the rate of change of total utility, justify? (4mks)

ii) The following schedule is a hypothetical data for a combination of commodities X, Y and Z consumed by a rational consumer to derive his satisfaction to a point of satiety.

<b>Marginal utilities derived from each Kg of:</b>			
<b>Kg consumed</b>	<b>X (Sh. 8/kg)</b>	<b>Y (Sh. 4/kg)</b>	<b>Z (Sh. 2/kg)</b>
1	72	60	64
2	48	44	56
3	40	32	40
4	36	24	28
5	32	20	16
6	20	8	12
7	12	4	8

Using cardinalist approach, establish consumer equilibrium that will enable him maximize utility. (7mks)

**QUESTION TWO**

(a) (i) Define an indifference curve (2mks)

(ii) Illustrate and clearly explain the nature of indifference curves for perfect substitutes and for complementary goods (7mks)

(b) Explain the property of convexity to the origin of an indifference curve (4mks)

(c) Using the ordinalist approach of consumer behaviour, distinguish between income and

substitution effects of a price rise for a normal good (7mks)

### QUESTION THREE

(a) (i) State the law of variable proportions (2mks)

(ii) What key assumptions underlie this law? (6mks)

(b) Discuss fully the three main stages associated with the law (12mks)

### QUESTION FOUR

In a perfectly competitive market, a firm's average revenue and cost functions are given as follows:

$$AR = \alpha Q - \beta \quad \text{where } \alpha, \beta \text{ are constants and } Q \text{ is the output}$$

$$AC = \frac{\alpha}{Q} - \beta$$

Where AR is the average revenue and AC is the average cost.

#### Required:

On the basis of the functions given above, determine:

(i) Total revenue function. (3mks)

(ii) Total cost function. (3mks)

(iii) Total break-even output level. (3mks)

(c) With the help of a well-illustrated diagram, explain how the long-run equilibrium of a perfect competitive model is achieved in an industry. (6mks)

(d) Using an appropriate diagram illustrates the profit maximizing output for a monopolistic firm. (5mks)

### QUESTION FIVE

The total cost equation in the production of bacon at some hypothetical factory is  $C = 1000 + 100Q - 15Q^2 + Q^3$

Where C = Cost measured in shillings, while Q = quantity measured in kg.

a) Compute the total and average costs at output level of 10 and 11 kg. (6mks)

b) What is the Marginal cost of the 12<sup>th</sup> Kg? (4mks)

c) Explain the shape and relationship between AC, AVC, MC and AFC curves using relevant diagrams. (10mks)