University of Indonesia
Faculty of Economics and Business

FINAL EXAM ODD SEMESTER
ACADEMIC YEAR 2018/2019

Course : MICROECONOMICS 2 (ECEU600102)
Date : December 21st, 2018
Time : 150 Minutes (2.5 hours)
Exam Status : **Cheating sheet are allowed for all question *except* for the number 1.**
   NO calculator or any counting tools.
Note : **Process** is as important as the result!
Lecturer : Chaikal Nuryakin, Ph.D.

Answer **All** questions and your answer **should be** in English. You should answer number one first *without* cheating sheet. Please, write your answer neatly. Any irrelevant handwriting would not be counted.

1. **(30 points)** Suppose that a production function takes the following form,

$$q = 2KL$$

   Let r and w be the prices for input K and L respectively. Then, answer the following questions.

   a. Does this production function display increasing, constant, or decreasing re- turns to scale? Explain why. (5)

   b. Formulate the cost minimization problem (you may denote a target output level by q). (3)

   c. Solve the minimization problem and derive conditional input demand for K and L. (10)

   d. Derive the (minimum) cost function! [$hints: c = (r, w, q)$] (7)

   e. Explain properties of cost function! (5)

2. **(20 points)** Suppose a firm has production function as follow:

$$q = K^\alpha L^\beta$$

   Let r and w be the prices for input K and L respectively. Inputs market is competitive. Then, answer the following questions.

   a. Formulate the profit maximization. (3)

b. Solve the profit maximization problem you derived in (a) and find input demand for K and L. (10)

c. Derive the (maximize) profit function and explain its properties. (7)

3. **(20 points)** Consider an exchange economy with two goods, x and y. Suppose that individuals have the following symmetric utility functions and initial endowments:

$$u(x, y) = \frac{1}{4} lnx + \frac{3}{4} lny$$

$$\omega_1(x, y)) = (3,0) \quad endowment \; own \; by \; person \; 1$$

$$\omega_2(x, y)) = (1,2) \quad endowment \; own \; by \; person \; 2$$

a. Find all of the Pareto efficient allocations for this economy. (7)

b. Formulate the utility maximization problem for each consumer. (5)

c. Solving the consumer problem, you derived in (b), find the competitive equilibrium allocation. (8)

4. **(30 points)** *Choose 3 out of 5* statements below and explain it using graph *or* mathematical proof *or* any example:

a. Why do we need a concept of elasticity substitution? Or why it is not enough to just have a concept of MRTS in order to know the degree of substitutability between inputs?

b. A production function that is increasing return to scale generates decreasing cost function. Then why do in a typical production function we have a decreasing cost at some range of output and then an increasing cost afterwards.

c. The core allocation is always pareto allocation but not vice versa.

d. If a firm maximizing profit then it must be minimizing cost.

e. When firm expand output in the short run, the cost of producing that output is not the least minimizing cost.

~~~~~~~~~~ end 2 of 2~~~~~~~~~~