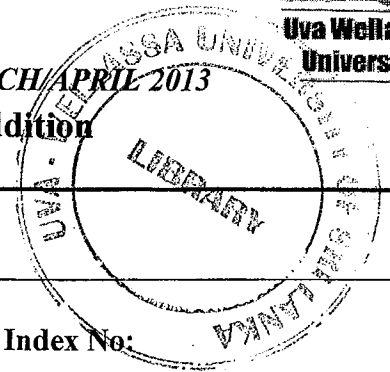


# **Uva Wellassa University**

## **Faculty of Management**

**THIRD YEAR FIRST SEMESTER EXAMINATION – MARCH/APRIL 2013**

**EMG 344-2 Applied Economics and Value Addition**



### **Instructions**

No. of pages : Four (04)  
No. of questions : Five (05)  
Time allocation : Two (02) hours  
Total marks allocated : Forty (40) marks  
Requirements : Answer question No. (1) and any other two questions.

Index No:

(1) Read the following case study and answer the questions given below:

The following is extracted from the publications of Lanka Mineral Sand limited Company.

A quantity of 12.5 millions tones of unexploited valuable mineral sands is available in and around Pulmoddai. It is considered as the richest mineral sand deposit in the world. Sea waves bring mineral sand from the sea bed to the beach. Truckloads of sea sand are brought to the mineral sand factory where mineral sand are separated from sea sand. It is a highly sophisticated process. The raw beach sand is wet and the trash and sea shells are separated by screening. To remove the light pebbles and tiny sea shells the mineral sand is conveyed through series of machinery. For further processing the heavy mineral fraction is pumped to the main processing plant. Heavy magnetic mineral such as Magnetite and Ilmenite are separated from non-magnetic, Ilmenite so separated is pumped to the wet Ilmenite dewatering depot and after drying it is sent to main warehouse for shipping. The non magnetic fraction is stored in separate wetstores.

This non magnetic fraction is conveyed to a series of high tension separators to separate conductive minerals from non conductive minerals such as Rutile and Non Conductive Mineral fraction contains Mineral Zircon, Garnet, Monozite, and waste Quatz. The minerals in the conductive fractions are separated into individuals by

several stages of high tension separators and magnetic separators and stored in separate warehouses.

Lanka Mineral Sand Ltd. Exports approximately 100,000 tones of basic minerals annually to Japan, United Kingdom, Eastern and Western Europe, USA, India, Pakistan and China. These countries use these raw minerals for producing metal titanium with Ilmenite and Rutile which is as strong as steel which can bear up high temperature. This metal is used in space craft. Rutile is used in its raw form for producing welding rods. Zircon helps make glossy and excellent finish for porcelain goods, sanitary ware, and wall and floor tiles. The ultimate use of these mineral is in paper, paint, plastic, rubber, textile industries and to make printing ink. The price of a Metric Ton of Ilmenite has increased by 700 percent during the last two years.

The technology involved is very expensive and a vast capital investment is necessary. There are industrialists with technology who are willing to invest in other countries. Sri Lanka needs foreign collaboration to produce value-added finished products.

- (a) Trace the production processes of Lanka Mineral Sand Limited and develop them into a Porter's structure of value chain (15 marks)
- (b) Suggest Lanka Mineral Sand Limited the way in which the structure to be expanded integrating Backward/Forward linkages to improve value chain. (15 marks)
- (c) Describe the ways and means that Porter's value chain concept can assist Lanka Mineral Sand Limited accessing to global market. (10 marks)

- (d) Explain how Value-Web concept can be introduced to this industry to coordinate activities in the global market with foreign partners. (10 marks)

**(Total of 50 marks)**

2. (a) Draw the structure of value chain developed by Michael Porter incorporating Information technology. (5marks)
- (b) Describe the primary activities in a value chain related to a University that you are familiar with. (6 marks)
- (c) Explain the role of support activities of the value chain in (b) above. (6 marks)
- (d) Describe the way in which the value chain analysis is useful for today's businesses. (8 marks)

**(Total - 25 Marks)**

3. (a) Define the concept of production process. (6 marks)
- (b) Interpret the term 'business value addition activities' citing examples of a firm. (6 marks)
- (c) Giving examples of wasteful non-value added items discuss their impact on the performance of the firm. (7 marks)
- (d) Describe the following methods of measuring value-addition of a firm:
- (i) Addition method. (3 marks)
- (ii) Subtraction method. (3 marks)

**(Total - 25 Marks)**



4. (a) Develop a linear Production Possibility Frontier (PPF) using isoquant maps.

(10marks)

(b) Using the PPF developed in (a) calculate the values of opportunity costs:

(i) Inside the frontier. (3 marks)

(ii) On the frontier. (3 marks)

(c) Explain the effects of:

(i) Adopting new technology in both industries.

(ii) Destroying resources due to war.

(iii) Receiving foreign assistance for rehabilitation.

(2 marks for each)

(e) Position developed, developing and underdeveloped countries in your Production Possibility Frontier and suggest policies for them to move forward (5 marks)

**(Total - 25 Marks)**

5. Write brief notes on three of the following:

(i) Integration of forward and backward linkage to improve value addition.

(ii) Intermittence production processes and their merits and demerits.

(iii) Continuous production processes and their merits and demerits.

(iv) Use of Information Technology in enhancing value addition of a modern firm.

**(Total - 25 Marks)**