

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY



FACULTY OF INDUSTRIAL TECHNOLOGY

DEPARTMENT OF INDUSTRIAL AND MANUFACTURING ENGINEERING

Bachelor of Engineering Honours Degree Industrial and Manufacturing Engineering

2nd Semester Main Examination

COURSE : **Environmentally Conscious Manufacturing**
CODE : **TIE 5214**
DATE : **May 2014**
DURATION : **3 Hours**

INSTRUCTIONS AND INFORMATION FOR THE CANDIDATE

1. Answer any **five (5)** questions.
 2. All questions carry **20 marks** each.
 3. This paper contains six **(6)** questions.
 4. There are **two (2)** printed pages.
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QUESTION 1

Explain what constitutes the environment in a manufacturing set up. Discuss how each gets affected with a poor manufacturing environment. [20]

QUESTION 2

You have just been employed as manufacturing engineer justify to management the essence of applying environmentally friendly manufacturing methods. [20]

QUESTION 3

Explain with the aid of sketches the pollution control techniques. [20]

QUESTION 4

Discuss the controversy of sustainable development in the context of:

- a) Global politics . [10]
- b) Local economy . [10]

QUESTION 5

- a) Identify and explain the elements of ISO 14001. [10]
- b) Identify and explain the environmental indicators of quality. [10]

QUESTION 6

Explain the following terms in relation to environmentally friendly manufacturing

- a) Product synergy and industrial ecology. [5]
- b) Environmental quality. [5]
- c) Water quality. [5]
- d) Air quality. [5]

End of Examination