NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF INDUSTRIAL TECHNOLOGY

DEPARTMENT OF INDUSTRIAL & MANUFACTURING ENGINEERING

Bachelor of Engineering Honours Degree Industrial & Manufacturing Engineering

Ergonomics and Industrial Safety II - TIE 1204

2nd SEMESTER EXAMINATIONS – AUGUST 2009

<u>**Time allowed: 3hrs**</u>
<u>**Instructions to candidates**</u>
   1. Answer **FIVE** questions All questions carry equal marks

QUESTION 1

a)   From an industrial engineering point of view, explain clearly what you understand
        by environmental hazards use practical examples to illustrate your answer. [10]
b)   Briefly explain how you would control four such hazards.   [10]

QUESTION 2

Industrial ventilation is a critical aspect Industrial Hygiene, Safety and Health Management
a)   Explain why you think ventilation at work places is so crucial   [4]
b)   Describe any four methods used in effecting ventilation   [12]
c)   Explain the two types of industrial respirators   [4]

QUESTION 3

a)   Explain the following terms as applicable to a labor force:
        i)   Tinitis   [2]
        ii)   Tetanus   [2]
        iii)   Hepatitis B   [2]
        iv)   Human immunodeficiency virus   [2]
        v)   Asbestosis   [2]
        vi   Pneumonoconiosis   [2]
b)   How do these develop?   [4]
c)   How can they be prevented?   [4]

QUESTION 4

a)   List and briefly describe any 4 infections that result from an exposure to chemical hazards.   [16]

b)   How can an ordinary worker tell that they are affected?   [4]

QUESITON 5

Employers and businesses in general are always very concerned about any losses they incur in their operations.

a)   State any four methods you would recommend to reduce or contain such losses.   [12]

b)   List and explain two particular methods you would recommend for implementation to help monitor developments for such losses.   [8]

QUESTION 6

a)   Describe how outdoor workers are likely to suffer from the following:
          i)   Thermal radiation   [2]
          ii)   Ionizing radiation   [2]
          iii)   Heat exposure   [2]

b)   Suggest two possible remedies to reduce their effects   [6]

c)   How would you deal with some albino workers under the above conditions [8]

End of Exam