

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

Time allowed: 3hrs

Instructions to candidates

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]

QUESTION 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