



PROGRAM : NATIONAL DIPLOMA: ENVIRONMENTAL HEALTH

SUBJECT: OCCUPATIONAL HEALTH AND SAFETY III

CODE : OHS 32-1

PAPER: SUPPLEMENTARY EXAMINATION (THEORY)

DATE : JANUARY 2018

DURATION : 3 (THREE) HOURS

WEIGHT : 50: 50

TOTAL MARKS: 150

EXAMINER : MR MASEKAMENI MD/ DR SHIRINDE J

MODERATOR: MR KHOZA N 4075

NO. OF PAGES: 3 PAGES

INSTRUCTIONS TO STUDENTS:

1. Answers all the questions, answer all questions in the appropriate format and number accordingly.
 2. Read your questions carefully. You will be penalised if your answers are not properly structured.
 3. You can start with any question, but do not divide sub-questions of the same question.
 4. Please write neatly.
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QUESTION 1

- 1.1. Differentiate between carcinogenic, mutagenic and teratogenic effects (6)
- 1.2. Explain the three main fractions of particulate matter, base your answer on aerodynamic diameters. (6)
- 1.3. Study the following figure and answer the questions below:



- (a) Estimate the threshold of Toxicant A and B (3)
- (b) Determine the LD₅₀ of toxicant A and B (2)
- (c) Which substance is more toxic at the dose of 6 mg/kg (3)
- (d) At 70% response what is the dose of toxicant A and B? (2)

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QUESTION 2

- 2.1. What is an IDLH environment (3)
- 2.2. Describe the importance of workers fitting respiratory equipment before use (3)
- 2.3. Describe the duties of employees who may be exposed to asbestos dust in terms of the Regulation 6 of the Asbestos Regulations. (6)
- 2.4. Discuss the health effects associated with asbestos dust (7)
- 2.5. Explain the term “friable” with reference to asbestos (3)
- 2.6. Cases of mesothelioma have occurred in the children of Asbestos workers, briefly explain how can this happen and what measures that could have been put in place to prevent the occurrence. (6)

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QUESTION 3

- 3.1. With practical examples please explain the concept of Occupational dermatitis, how will you deal with each type of occupational dermatitis. (16)
- 3.2. Globally, chemicals are daily produced for industrial and domestic use. Over 3 million chemicals are used in the industries, with majority being produced and used in developed countries. Studies suggest high incidences and prevalence of chemical poisoning in developed nations where, larger quantities of chemical are produced and used. Agree/ disagree. (8)
- 3.3. Employers argue that the process of risk identification and evaluation is expensive therefore; instead of wasting money on this process, it is better to use the money on implementing controls. Do you agree or disagree, please motivate. (5)
- 3.5. Explain to the interview panel risk assessment process. (20)

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QUESTION 4

- 4.1. You have recently been appointed as an Occupational Hygienist for a company where employees are exposed to different stressors. You are required to develop an occupational health program for the company. Discuss the components of the program that you will implement. (16)
- 4.2. You are required to conduct training and give information to workers who will be exposed to hazardous biological agents, in term of the Regulation 4 of the Regulations for Hazardous Biological Agents, what aspects will you cover in your training? (10)
- 4.3. In terms of Regulation 17 of the Regulations for Hazardous Biological Agents, how would you ensure that hazardous biological agents are disposed of in a proper manner? (15)

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QUESTION 5

- 5.1. Discuss control measures that should be in place during the handling or removal of asbestos material (10)

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TOTAL = 150